

BLUE BOOK

(continued)

Lepidopterous Larvae.

—Nos—

213 to 270.

HARRIS

summary of
for Mr. 2
66 or 91

213

egg? on ash July 15, 1890. Circular,
flat, disk-like, the lateral
edge sharp, slanted somewhat
from leaf by base rounding a little
more nearly flat, rounded a
little with a central low dome.
Color grayish white, the dome
darker with a central greenish
spot and ring around it. Diam.
egg? 1.6 mm, of dome 1.3 mm
(It looks like Saturn in ^{from above} projection.)

Apatelodes sp? perhaps *anglica*
(see Packard on *A. tenebrata*)

*5 apt 7 shed hds from can (2 even) 3.6 3.7 3.6 3.6 3.6 3.6
3.6 3.6 3.6 (one found out doors Hd 4.3) Sh hds 3.6 3.6 dead 3.5

2.14 Molt Aug 12 Hd black, shiny; labi
& antennae white. W 4.3 ^{AK} Body black, s-d
spot. ^{H.3} ^Y ^{OSEMITE} ^{CA.} ^{11 mm long} Wait on 12
pale, shrivel white, beneath. ^{11 mm long} before
hair old. The feet casten, abd
pale; the clasper long. C spot black bisect
as stage advances the hair becomes ^{dull} yellow.
Coon Aug 29 compact; hair & thin.
6 apt 7 dead in coon with head 4.1 or 4.2
pupa (sh hd 4.1) abd, large centrally, tapering
each way. Same as 220 B (q.v.) This ex.
Another L 14 mm W 5.5 mm
disrupted, L 10 mm W 4.5 [will die]
Sh hd 3.4; Hd pupa? 4.1;

Imago April 1891 ♂ Cal. no. 5411
cpd 6/12/91

molt July 10 Same Hd 3.5 mm Body & legs
black, wants broadly pale, hair dull
ochre yellow the ^{black} dorsal ridge
& hds darker 214

H. tessellata on hickory July 17, 1890
Hd black & shiny, antennae white
W 1.3 mm ^{H.3} ^Y ^{OSEMITE} ^{CA.} ^{near 11 mm long} Body ^{small} black
wants ① s-d ^{near 11 mm long} ② s-d, ③ super
stig. also ④ & ⑤ subventral small
concolorous with body. Body
semi-trans. whitish, prob on 3, ant
on 4 and on 12 large s-d orange
spots, wants bear thin short whitish
hairs. Molt July 19 Hd same W 1.7 mm
wants whitish, prob on 4 black
penicil and from ① on 12 same but
the 2 orange over dorsum & form a
single dorsal tuft white penicil from
③ on 12. White hair over head & tail
hair whitish. Orange spots same.
Dorsum blackish, body pale.
Spiacles white, distinct. ✓

Hds by alc 4 .6 .9 1.3 1.7 2.1 (2.6) (3.5) (4.7)
we have .4 .6 .8 1.3 1.6 [2.1] 2.7 3.5 4.3

[Little ones on DYAR CA] Hds by alc 4 .6 .9 1.3 1.7 2.1 (2.6) (3.5) (4.7)

H. G. YOSEMITE

Body white & short, warts yellow
anally black, each wart with
a single hair. Hds .6 mm Body

as before but hair more abundant
mostly black latum. bases of
palpi white (2.5+, 3-) Hds 2.7 mm Body black.

Obscured by the thick hair, spiracles
white, abd feet whitish. From row 5 on

on joint 3 & 12 grows a pencil of
long black hair & from row 5 on
3 & 12 and the large wart on 13 thinner

pencil of white hair, other hair even
close, tight dark or gray. Warts get
except 5 on 12 which are pale and

have range about their bases. Trace
of the range mark on 3 & 12

July 28 HB 9 Black latum & palpi white
as before. Warts black & s. p. l. x
head black line centrally. more hair etc

[Aug 4 5 1.6] [Aug 8 1.1] 2.1 Body black aln. warts white
Hair gray. Warts as mat. Hds black shiny
Hair as in next stage & no mat.
[Nov 14 Hds 2.6] 2.15 [Sept 3, 25. hds 3.6, 3.6]*

Eggs of *C. regalis*? Rough. c-light July
17, 1890 Elliptical, punctured. Color
green (pale dirty yellow when found)
Diam 3 mm diam (2) 2.5 mm Height 1.8 mm

Hatched July 28 Hds dull orange (rather
higher than wide, slightly bilobed) mouth
& eyes & patch around them black. base
of palpi white (1.6+, 1.5) Hds 1.3 mm Body with a row

of 2-d short 1-spined hairs tipped by
a hair, those on 12 bifurcate each
with a hair On 3 & 12 they are long

with many short spines, bifurcate at
tip. on 12 a single dorsal one line to
on 3 & 12. Two other rows super tiny small

& sub tiny a little larger the latter
2-tipped, each with a hair, 2 large & 2
small spines on anal plate, all with

branched feet & abd outwardly and

ate ^{Maple}
^{& pine}
brn to anal plate black. Body
pale pinkish brown with a trans-
black stripe in seg. Antennae ⁵⁻¹¹ ^{on joints 5-11}
dorsum and 3 short || streaks for seg.
the middle one largest on lateral
region. Venter without black. ^{each} $\frac{1}{2}$ m

Molt Aug. 3 Hd as before light brown
shiny. Spt blackish, eyes, antennae
& mouth black, labia & bases ant. white.
W. 2.2 mm. Body brownish, paler
dorsally on abdominal segs, horns as before
black, spiracles with a broad extensive
black border & some traces of black
line on the sides, the feet ringed
with black, abd black outwardly,
anal plate a little blackish centrally.

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On Linden Webster Co, some time ago
 sort of fast cat. but does not jump
 in wriggle July 20 fed green. joints
 & palpi pale, eyes black, 4 round
 black spots, one above eyes & another
 at same height bet. the central
 suture. ^(2.5-3.2+) Body long, & skin
 folded in segmental sutures,
 feet normal but last pair
 extended (used) and larva walks
 with looping motion. A number of
 small blackish tubercles each
 bearing a hair. Body translucent
 velvety leaf green. L. 30 mm
 but body no wider than head
 Cooon at surface of ground July 24. 2nd
 web. Pupa July 26

dead

copied
 7/25/90

H. G. DYAR
 YOSEMITE, CAL.

1.5 2.2 3.3
 {see 398
 for I & II}

On Linden Apr 31 1890 Hd brown than
 will head is black, very slightly yellowed
 a brown line on each & connected by 3 irregular
 bands & with 3 similar bands at each side
 consequent part. A few hairs, jaws brown
 head pale brown. Sutures brown. W 1.5 mm
 Body with dorsal process on 5, 9 moderate
 dorsal rather thickened at 8 & 9 & elevated
 a little at 9. Elevated at 12, each with
 a tubercle. 6 rows each side as in mat 18k
 2 larger on 2. each with a hair. Body a
 purplish brown darker on dorsum, only a
 little mottled. 3 & 4 except dorsal band green
 white d. patch on 5 & 6 7 & 8 ant. concolorous
 at ant. with a red line. Warts 1 on 6 & 7
 yellow. V mark on 10 & 11, white with warts
 dorsal dots on 11 & 13 a little greenish

Sprinkles black Last feet not used.
 molt Sept 1 Hd 2.2 mm Higher than wide, slightly bilobed
 2 antennae in front & at sides. A minute & brown brown
 minute tubercles. Color pale brown, a band from joint
 to vertex of each tube dark brown bordered with black
 which extends over on the occiput. Side feet, a hooded
 with black & the speculum between the actual bands
 with purplish, gale & antures brown, tubercles pitiform dark.
 Body dark brown, heavily & irregularly reticulated on a
 pale ground almost black along dorsum 8-13
 ant laterally in pale & 3 set green all but a d-band
 the venter broadly yellowish, narrowing to a band on 5 & 6
 which continues to 13. Processes on 5 short, tipped by 2-
 3 yellow tubercles, tubercles on 6 & 12 unequal
 the surrounding tubercles of 12 nearer together. All tubercles
 are lateral superior conical each with a black stain.
 Elliptical white platelets 3-8 contain 3 crimson lines
 white tubercles 6-8 are yellow white V-shaped or
 10 & 11 taken in anture with white d-spot on 11.

Sprinkles black Pale centrally
 molt Sept 8 W. Hd 3.3 mm (shed 2.2 mm)
 10 & 11 it has a decided green
 The molting on the ground
 are much darker on the dorsal
 2-4 on the base of the process
 and ending the anterior part
 (no line)
 line on 8. Bordering the patch post,
 from joint 7, and forming a broad
 dorsal blackish band, continuous
 on joints 8, 9 & 10 but interrupted
 on 11 by the usual V shaped mark
 this mark is broad, creamy white
 containing some crimson red lines
 consists of a subd patch on 10
 and 2 oblique s-b bands on
 between which is a small white
 anal spot. The blackish dorsal
 band fills in the space between these
 and is continued more
 evenly than before to the anal plate
 10 & 11 it has a decided green
 The molting on the ground
 are much darker on the dorsal
 2-4 on the base of the process
 and ending the anterior part

9 the pale patch on 5-8, and also
 Subventrally. Spiracles brown, pale
 centrally in fine black border. The
 abd. concolorous with body and shining
 feet reddish, venter pale yellowish
 Length 30 mm. The central abd. feet
 are not held together so closely as in
 C. lepturides. Laid for pupation
 July 26 Coven in full box, under leaves
 of apple this week.
 Pupa July 31 Cylindrical, abd.
 segs gently tapering, wing cases
 prominent, at post. edge of thorax
 a row of subcircular granular
 elevations. Cicada-like 2 spin. with
 a thorn-like branch pointing in-
 wards. Body prominent, especially
 in seg. suture, cases smooth.
 color mahogany red, very shiny.
 Imago Aug 10 Schizura ipomoeae

a few hair
 after air
 fully fed
 and well
 out of
 stage

Calc. .45 .64 .92 1.3 1.9 2.7 r. 70
 found .4 .6 .9 1.3 2.1 3.1 common
 218 Copied for
 Larva book
 3/8/91.
 On milkweed July 26, 89. Hd. black
 shiny, mouth paler. W. 4 mm Body whitish
 warts apparently 5 rows, concolorous. Each with
 a black hair. Cephalic & anal plates
 blackish. Length 3 mm Egg shell in
 a loose cottony mass like short fibre
 down, obtusely conical, the base flat W. 6 mm
 First July 28 Hd black W. 6 mm Body
 whitish, warts as in Anatra row 0 0 0
 0 pale brown the rest concolorous with legs
 a few pale hair from each wart.
 Molt July 31 Hd black, labris & palps
 pale W. 9 mm Body greenish, warts
 black, hair black, longest at ex-
 tremities, a little tufted on 5 & 12
 Molt Aug 3 Hd black, plate pale, labris
 & bases of antennae white W. 13 mm Body
 greenish, warts black, hair thick

tufted as in mat. larva. No tufts
on 2; on 3 & 4 black pencils from
② & ③ on 5 from ① & white from ②
③ on 6-11 orange pencils about from ①
& ②, black from ③ but on 11 only orange
from ①, white from ② & ③ on 12. Black
from ① & ③, white from ②. On 13
thin black from large wart. ④-⑥
are small & have a few black hairs.
Narrow whitish stig. line. 8th feet
black. Cervical spot black, discolored
warts on ^{segments of} legs segs. small, black.
Molt May 6. Hd black & shiny. Labia a
little pale w 2 on Body black, con-
cealed by the thick hair. Tufts as before
but the subventral hair are largely
white. Molt May 12. Hd black. Labia
& bases of antennae white w. 2.7 Body
black, a whitish substig. line.

claspers of abd. feet reddish. Hair same
the tufts are folded over meeting on
dorsal line, the orange & white alter-
nating i.e. on 6-11 from ① orange
from ② white from ③ black streaky
not straight sideways. other hair same
2-8 on and 6 pad segs. white.
Cocoon Aug 17 of hairy silk. Thin.

Pupa

Imago March 8 1891
Euchaetes egle

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Little offspring on elm July 29, 1890. Head round, dull pale green. Jan. black

W 1.3 mm Body cylindrical, granulated light green, a yellow s-d yellow line absent on 2, 6, 13 and 8 oblique lateral yellow line, the 12th on 5 only above the s-d line, the next from feet nearly meeting over the back, the last passing to base of caudal horn which is

long (2.4 mm) smooth, very minutely pilose, dark red-brown tipped with black. A pair of elevated spots each bearing a hair on dorsum of 3 & 4 granulations yellowish. L (nat) 11 mm

Molt July 28 Sub A, granulated with many conical elevations, 1 near vertex of each lobe longest. Hd, green, green yellowish, palpi reddish, eyes black. W 1.7 mm (1st, 2-)

Body green with many conical granules like the head, the largest 3 brown situated closely in lines like the yellow line of last stage. A row on collar and 2 on dorsum joint 3 & 4 while the short ones are closely covering the body, a transverse row with each annulet (8) Caudal horn spinose, various as are thoracic feet.

Molt Aug 2 Hd as before, the granulations are heavier at the L giving the appearance of a vertical line. Eyes small blackish (25 just through) antennae a little brownish. W 2.5 mm

Body as before, the heaviest of the conical granulations are some what apparently arranged. They are a trans. row on collar, 1 near s-d line on 3 & 4, s-d row on 2-4, germinate dorsal line to 12 & 7 oblique lateral line, the one formerly on 5 and the

upper 3rd line not distinct as
the granulation are in layers then
less elsewhere. Caudal horn yellow
tinged with red in the middle.

1st fin black on lower $\frac{2}{3}$, 3 and
4 are abd., blackish outwardly,
not bright red as before, same to 5th
and 6th. Body as before (did not get clean
the last).

Platycephalus

(Aug 24 Hd 2.6)
(Aug 26 Hd 1.7)

232 B (Bd 4.0/10/19) Hd 1.3

AL. CAL. Egg in cocoon, white, July 24, 1898
D. Y. A. R. H. Slightly conical, smooth, with faint
of spherical (the base flat, base shiny
pale greenish white. Diam. 7 mm
in mass of 18 on under side of leaf
Hatched Aug 2 Hd pale white, legs
black, mouth brown. Body white, a
row of conical, each with 1 blackish
hair. W. 4.2 mm L. 2.5 mm - Aug 2 Aug 6
Hd 6; hair more abundant = 220 A
all wing c 4(2), white on 12 (3) and
3 2 4 (4) slightly on 3. Black along rear
from (3) on 4, 5 & 11. After Aug 15 Hd
whitish, labrum & antennae white.
eyes black, ^{(S. 2.45) 2.5} W. 3.5 mm Body whitish, a
row of black spots surrounding the white
apical & a row. Hair white,
hairs erected (beaded) on dorsum

(Aug 30 Hd 3.6)

AL. 4 wings. Puncta ant. = 40 (10 on each) 6 2
white front, Aug 23 220
Molt Aug 17 Hd about 3.5 mm = 220
Cocoon by Aug 31 or hair & thread, dense
Pupa 5 days. 1st molt abt enlarged, contracted
but then abt as dead, moving each
way from middle, seg. appressed - no
movement. Completely black & first in it
black & 5 strong hair with their ends
enlarged or curled. Body of cocoon
punctured, cases creased, color
shiny white maturing. Length 15-
width 6.2, height 4.7 mm
Imagoes

Pupa Aug 27 Cylindrical, tapering a little toward both ends, the last 2 abd. segs rounded and appressed. No cremaster. Eyes prominent a narrow carinated ridge runs along head. Suture between eyes to base of organ of antennoe bases creased & very minutely punctured, not shiny eyes a body subdivisions, the latter minutely granulated at the anterior half of each abd. seg. Spiracles distinct. Color dark deadish brown, with a blackish shade over the dorsum length, 18 mm width 6.5 mm

Cernea multiscripta ?

0/28/27/90

Imago Feb 25 1891 *C. munituscripta* ♀
Egg under 1/2 in. old (1891) deposited covered with small
round punctures, not close together to form reticulation
but deeper than the spaces in other *Cesura*.
Shiny black, irregularly lard

around also partly Yosemite Cal. in the
leaf next Viceroy. W. 1.3 mm Larva hatched
by hole in the side - shell untouched.

a. *Neotrichia* *truncatopunctata* (Wied.)
b. *truncatopunctata* (Wied.)

Had with stroke before about 1/2 year before
death (1947) before death

(Handwritten notes on lined paper)

and
at top of page (mean?)
one each side
line 1-10 (H.A.) on intermediate note

Amphibian. Starts fairly smooth
the skin. Scales with tipped with a

... elongated polygon
... alternation

each day
*
tent day

Englische Staatsverwaltung

where the dream is ~~in~~ ^{regularly} ~~in~~ ^{repeated}

more or less surrounded by black.
Tail black heavily spined (fine
well shiny shiny black hair beyond
anus.) The pectoral tube has
small dorsal and lateral processes
white bands varying around lateral
white spots. Faint brownish
sharpened yellowish tips of tail. ✓
As the stage advances the dorsal fin becomes
faintly white. The dorsal band is faint streak
brown and yellowish looking cut with white
to blue below which is white. I am not

~~V~~ ^{one} under 85-V. ~~black, ...~~
the color below white ...
m2 & turned up at its anterior end.
Many small lateral white flecks
Spinules black, white centrally.
The feet base lined with black from
quadrinails, and once transverse.
the clasps behind & legs 2-25+9
2 erect whitish above pit yellow
~~when new, all white & dark ...~~
below long green, the 2 spots pale blue. ~~cor~~ ✓✓✓

in pairs, 6-9, 11 & 13 though not com-
pletely on 8 & 9 and then of course

Spiracle on 8. Small dense, rounded

H. G. DYAR *probably connected with*

YOSEMITE, CAL.

a small one on 10th ending on 11 and narrowly connected with the last ④ on 13, replaced by greenish on anal plate. The rest of the body ~~is~~ ^{is} yellowish green. Tails purple ^{twice} annulate with yellow. Inst 5 to 6 Hd purple black, green at the sides, post. & front with sides articulated with yellowish. In front with broadly lobed narrowing to vertex it is marked with yellowish. Spl & front darkish green black, antennae white. W 32. ^{11.34 / 3.8-1}
marked spl large, smooth and water at the corners represent the horns of previous stage. ✓ Body slightly ^{angular} flattened at 8 and not visible. Tails spinose. Purpleish black trace annulated with greenish yellow. The tails are not green below.

* is another
contrast
centrally

H. Q. DYAR

Yosemite, CAL.

mouth yellowish with a dorsal profile
narrowly edged with rim of a faint yellowish line
black dorsal band, as follows: - A large
triangular patch on 2 & 3, covering the
top part of the smooth, ^{punctured} corners of C-shield
ending at 3, ^{just} spotted with light yellowish
& narrowly bisected by a pale dorsal line.
Begin again a pair on 4 & widening,
contracted at each section. Below
the 8 on 6 on 8, which it covers, ^{reaching a just enclosing apex, down to line of lower edge} base
on 10 & 11, a little again on 11, no
on 12 reaching a minimum, & on 13, ^{12c}
13, contrast by a broad white dorsal plate.
On 6-8 much mottled by large cream
or yellow spots & by white spots on anal
plate. Squash purple black with a
central white line & black streaks
around them, white the yellow spots
here segregate to form an obscure

H. G. DYAR

YOSEMITE, CAL.

Yosemite, Cal. ^{near}
 blotches irregularly representing the
 dent on highest stage of narrow central
 line prof. Venter a little whitish. Feet
 even. 2 erect black spines at anus.

Later yellow spots appear in front
on 6-8, the sides are strongly spiracular
with dark brown spots, the dorsal
band is purplish. There is no distinct
concolorous coloring to the dorsal band
The spots in it on 6-8 are all yellow
the yellow border becomes obsolete
[not necessary as in *ovoides*]

222 *Phaethon rubricauda*. Not rounded the anterior deep
 blackish brown. W. 1 in. ✓ Body green a
 blackish brown & line with the red space
 black in 2. & the down with large color
 black in 3 patches, 1 on 7, 9 & 10, quadrate ②
 on 8-10 pointed and ③ on 14. ✓ Rounded
 there are more yellow green than body
 from spine. As tail the 14th
 line unmarked with pale yellow ✓ 7+5+
 Extremities the black, well marked what
 molt 34 Not 1st same as 222
 molted in fluid as if ripe but on 14th
 on 14th one bright colored on 14th ✓ 22
 from another, of quivering little 100

H. G. DYAR
9/13/90
YOSEMITE, CAL

Antonia eggs of *V. stansburiana* at
Whites Creek, July 30, 1894. Length in
series about 70, not quite touching on
inner side 3 leaf. Subcylindrical,
a little greater diameter near the bottom
than near top, the top round, base
nearly flat, shown white, the
anterior top with a lid very shiny
and white, like porcelain with a
central small round black spot.

Diameter of horn height about the same.
 In hatching the larva eats a hole in the
 top of the black spot. Hatched Aug 3-4
 1st inst. black shiny ex. 5 mm.
 Body with anal feet rather long, raised
 back end of abdomen a short stiff bristle
 as above. 2nd inst. 8 mm. 3rd inst. 10 mm.
 4th inst. 12 mm. 5th inst. 15 mm.
 After being eaten a little blackish
 yellow. Larva & soon a small white larva
 a few short bristles blackish. Eat paramecia
 in the stage of larva this became a small white
 dull yellow larva complete form. To walk & move
 but the 1st inst. Larva is black. 2nd inst. all white
 Larva with no other visible spines.

Final stage, etc 2550 agamm parenchyma (with Hazel)
no 67 short 3500 " " " " " "
H. G. DYAR

YOSEMITE, CAL.

W 1.1 mm Body brown, shiny dull yellow
narrower than inter-segmental spaces, all
from 1st to 2nd reaching anal plate
a little confluent. C-Spot, anal plate
thickened and feet & abd. externally black
short hairs. ^{small leaf 32 large leaf} Eat the whole leaf.

W 3.1 mm Hd higher than wide, depressed
at vertex, spl. shiny smooth black W 1.7 mm
brown brown, shiny narrower than space
yellow confluent posteriorly & along ant.
edge. C-Spot, anal plate & abd. black
shiny. Hair ended white, sparse.

W 4.2 mm Hd as before, spl. & labium wrink-
led, hd smooth, centrally depressed and at
apex & along central suture more slightly
all shiny black. W 3.2 mm C-shield
black or brown or grey replaced by brown
anal plate, tho feet & abd. externally black

H. G. DYAR

YOSEMITE, CAL.

Body black. YOSEMITE, CAL.
yellow, strongly confluent part, all
1st & 2nd except C-Spot also yellow. Base
leg & spots on leg & legs legs ^{dark yellow}
than reddish white sparse, besides other
fine short brown hair seen with lens.
The eggs centrally ^{is} shaded with the darker
yellow which would cause the lines to be
conspicuous on every joint were it not for their
slight different color.

W 5.2 mm Hd as before, but more
flattened in front, brownish along
black. Spl. & labium shiny & spl. shiny
Antennae & palpi white shiny
stomach greenish, spl. & labium somewhat
wrinkled. W 5.4 mm Body black, C-shield
brown yellow, anal plate, the anal part
& abd. externally black. Ant. leg of 9
first 2 all yellow, stripes narrower than
spaces, other yellow running into the
yellow part of 2 and confluent with 13.
ie 11th and 12th all yellow part of 14

Antennae general soft & pliable. Head cylindrical, thickened anteriorly, rounded to base, all eyes about the same.
 Case bristles, a slight raised elevation between eyes. All rays except 2 slow motion. Chemoatons. Two, black, each with 3 apices, the inner the longer, in a row in line with lateral vein of body. Cases curved, body coarsely punctured, very finely punctate. 1st case color black & blackish iridescent. L. 28 W 10 Spiracles distinct. No. 3 well separated. (Length small. 11/16 in, 1 1/2 in, 1 1/2 in)

Cal. .6 1.0 1.6 2.8 4.4
 mand - - 1.6 2.8, 2.9, 3.3 4.2
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Stenandrium vacuolatum
 Found on house near
 Waterbury, 30, 1890, in house like
 Eudamiae. Egg shell (top gone, 2/3 apical
 base flat, vertically imbricate, smooth.
 Hd 1.6^{unip} red mixed. Depressed at vertex
 black; hilum, the post. part smooth
 joint 2 pale brownish, a large black
 dull spot. Body green granulated
 with many small yellow piliger
 elevations; a yellow s.d. line on
 white ground at determination. Last
 seg faintly tinged with orange.
 First pair. Head imperfect black. The
 rest 1 abd. 1 unicolorous with body
 Next stage Hd 3.3 Hd as before, gran-
 ulated at vertex. Joint 2 red brown
 1-3 not black subpunctured, shiny
 Body as before, s.d. line not on

very dark
nearly black

anal plate: pile short, whitish
a darker faint dorsal shade line
Body shaped as in *E. laevis*

larva Hd 2.8 mm dark brown instead

of black. otherwise the same.

larva Hd 2.9, another 2.8 both black

2.8 mm. Hd large, ^{round} lobed, the lobes
large & rounded, slightly bulge up in front
of the granulated tubercles. Each
minutely pilose. Thorax not as dark as at 1st
stage of surface. Each side brownish
ventral ends, smooth black. W 4.2 mm
tail much as 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
but in the middle of shape of *E. laevis*
subgranular, minutely tuberculated
2 pilose, 12 ^{small} black spots on the
1st pair of legs. Rest 1 pair, very pale
green and 1 pair small yellow blotches
on black markings, becoming faint subventral
a pair of blackish dorsal blotches brown
yellowish red, not reaching extremities.
When quiet, as in anal plate,
the legs advance the body becomes tinged
with coppery red and a faint
granulation and in 2d line on 2nd
leg. 1st pair the hind legs
1st 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

Egg (shell) singly on back (leaf, 2 on a
leaf remote. laid close to vein or
midrib in yellowish. Elliptical
very flat, the skin thin and soft
1.4 x .8 x ? egg seems soft and
supported partly by the ribs. Skin
delicate, colorless, covered with many

shading
chocolate brown heavily irrorate
pink, often dentate
irregularly irrorate with chocolate
lines bordered towards
shades which are well
d predominate in pale specimens

4.24 - 6.06
6.06 - 8.66
8.66 - 11.25

very much
marked black

anal plate, pile short, whitish
a darker faint dorsal shade line
body shaded as in Eudamus
in side Hd 2.8 mm dark brown instead
of black. otherwise the same.

Another Hd 2.9, Another 2.8 both black

2.8 mm. The 4th large, below of the lobes
large & 8 rounded, slightly bulging in front
of the 5th, gradually attenuated, and the
minutely pilose through out as in 1st at right
angle of surface. Thick dark brown
anterior & ends somewhat black. W 4.2 mm
2.8 mm. at 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
black in the middle of shape of Eudamus
submarginatus, or minutely tuberculated
2 pilose, 12 (11) black, 13 (12) pale
14 (13) pale. Rest 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
pale with very small yellow blotches
& black markings, becoming faint subventral
a series of black dorsal line & brown
yellow 2d, not reaching extremity.
Abdomen quite flat, as in anal plate.
as going downwards the back becomes tinged
with coppery red and a small
pale dorsal line & on sub-
ventral side a pale line & a small
pale dorsal line & a small
pale dorsal line & a small

225

Spring of Birch Water Co July 20, 1890
1st triangular, the water of pond
with the long processes close together
forming a white, curved
tubular channel, situated, the water
greenish sulphurous; green pale
front with a pale ventral stripe
on 1st front & sides. On the white
area in a brown ring, just below
W 2.9 mm. 1st before described Hd 2.8
upper pointed, 1st looking like a
light green, the apical margin
white & whitish ventral line on 1st
2nd hole, vertex toward right. 12 even
W 4 mm body covered with
like little white tubercles in 1st row
per 24 only annulets, center
of them larger giving the ap-

connected by whitish shading

Brown-gray or pale chocolate brown heavily irrorate with pale scales, lines whitish, often dentate

Pale stramineous, densely irrorate with chocolate brown, rarely pale; lines bordered towards each other by dark shades which are well defined in the ♂ and predominate in pale specimens

americana

Staph.

mae.

Colo.

I

incursa

1.0

1.0-1.4

1.4-2.1

2.1-3.0

3.0-4.24

4.24-6.06

6.06-8.66

8.66-11.25

Food plants

willow

oak

wild cherry

bayberry

linden

witch hazel

chestnut

beech

Spirinuloides

Liate samples (2) Horns exposed as in Encelia gussonei
 Lophos. A spiracles 5 up. Horns 3-5-12 red
 Aug 31 3.7 3.7 mm. tipped, rest pale yellowish, (2)
 Sept 1 3.8 4.0 " colorless. Pale yellow line along s-d
 " 2 3.7 4.1 " ridge, festoons up at 3, 4, 5 & 11
 " 3 4.0 4.6 (tashed) and 12 & encircling d. purplish patches
 " 4 4.0 (th) 5.0* " ✓
 " 6 4.2 e 5.2 e B 3-4 4-5 5-8 8-11 11-12; rest green
 " 7 4.5 - 5.5 " (2) a little paler in ridge. Spine
 " 8 5.5 - 5.8 " with black tips, rather delicate.
 " 9 5.5 " 6.5 (tashed) Skin closely fine deep granular. separated
 " 10 5.7 (th) 6.5 " spaces 1 & 2 indicated as glandular dots,
 " 11 6.7 (tashed) 6.5 e C large lateral as ill defined hollow, all
 " 12 7.0 e 7.8 " obscure. White hd. but greenish, eye black
 " 13 8.5 " 9.0 " mouth brown.
 " 14 8.2 (mink) 8.8 " * horns included ✓
 " 15 " 9.0 " Stage C same s-d line indicated 3 4 5 8 11
 " 16 8.2 " 9. (mink) Pale dusky reddish purple, just 3
 " 18 8.8 e 9.8 e D continues 3-8, last two also as 8-
 " 19 9.8 " D 12. No caltropes nor end spines.
 " 20 10.5 " Horn 6-7 moved out a little and 9 line
 " 21 10.7 " 8 roots longer than 6-7 9, 10. A distinct
 " 22 Spine green line edge s-d yellow below
 in sides. 2 hard cuticular, nowhere
 broken. Horns 3 4 5 & 12 red, in one also
 11 and 13 red tipped. Head indented
 with creases inside yellow, with
 central pale d. line. No caltropes.
 Molt of 18 D. Caltropes patches 6-12 and
 at top one above 13. S-d yellow band
 3-12 indicated inwardly on 5, 4, 8, 11, 12
 discern faint in with purple
 edged darker with straight pale
 d. line; intersp. paired glandular dots whitish with
 tiny dark center, 4 between 3-4, 4-5, rest on 1 horn.
 sd dorsals indicated as tiny pale dots, esp. seen
 on 9 & 10. Long horns red, i.e. 3-5, 8, 11-13, rest yellow
 largest about 6-7 mm, the shortest round vent.
 Side green, darker below with ridge a broken
 whitish line along 2. No (2) on 5 its spiracle up.
 A large lat intersp. depression seen of 2 but
 consolidated but not constructed, edge fairly well
 marked. A large ill defined 5-8 intersp. hollow
 Skin watery granular. ✓

GREEN Spinuloides

Var of Spinuloides on bayberry at
Scaevola, N.Y. Sept 2 1895.

- Lengths Brown & red & purple.
 Sept 3 eating 4.7 Green, a yellow s-d band
 " 4 " 5.6 along ① sep. unicolor on
 " 5 (in bark) 5.6 3, 4, 5, 8, 11, 12, the end of
 green space very faint
 " 7 eating 6.5 purple tinged with traces
 " 8 " 7.0 of a whitish d. line. ①
 " 9 " 7.2 pale yellow, all but
 " 10 " 8. ② & s-v region more
 " 11 8.7 colorless.
 " 12 by hole 8.5 Sept 6 Same but brown
 D 13 eating 10.6 ① on 3 just touched red
 " 14 " 11.5 a little pale purplish
 " 16 " 11.0 shading in all d patches
 " 18 " 11.8 not separated from yellow
 " 19 all pale 10. of a green space. No caltrop

over Sept 12 Little caltrop
 patches on ② 6-12, getting
 more rose prot. On ① 13

large caltrop patch at base of horn
 in front. Caltrop flesh color, Horn ①
 3 reddish, the rest yellow. A band
 purplish, but pale, green edges at
 base, cut by yellow 8, 11 & 12,
 a row of white interseg. darts along

① under ridge lined above a
water with dark green so is
sd ridge above. Sides otherwise
pale green, approaching colorless
thin closely rather finely netting
granula. Impressed space above
D. intersey show paired glandular
centers and then one large water-
seg. hollows, all defined though
the other granules are smaller
than the center. The glandular
center except one in center of
lateral area (= lateral intersey?)

② shows two good setae.
Late sd band almost white,
purple still green bordered
Horn yellow except ① 3

egg solitary on back wild cherry
1.4 x .85. Elliptical, flat,
shiny, transparent. Pits.
stems, could not find with $\frac{1}{2}$
(sealed to hatch)

Codell on white brick Jefferson Highlands
 Mt. July 13 1895. Elliptical, dorsum
 a little sunken between the ridges
 which approximate at ends. Flat-
 tened, finely arched, the ends sub-
 truncate. Lateral ridge scalloped
 on the superior. S-V smooth, even,
 projecting. Translucent green, a
 pale white sunken line on
 S-d ridge and traces of dorsal
 impressed dot, setae short thick
 dark. i ii close approximate
 on S-d ridge, iii on lateral ridge,
 a fine pale setin represents
 iv + v S-V. Tubercles conical, the
 whole surface of body rather
 densely covered with small
 tubular tubercles without setae.
 Length 3.6 mm. W. hd $5 \pm$ Hd
 green, eye black, mouth brown
 another same hd $5 \pm$ Ridge all scalloped
 the lat. a S-V not very prominent 434
A type hd. 7 \pm Seen under microscope
 longer 4.3 mm, tail produced quadrate
 S-d ridge with a distinct white band
 beneath skin 4-tail. Lateral ridge
 projects even with S-V or a trifle be-
 yond it. D. impressed whitish spots
 distinct on central segs. interestingly
 the faint green line of d. vessel.
 eye lens rounded, squarish (spherical?)
 lateral ridge even.

Egg (shell) singly on back (leaf, 2 on a
leaf axils). laid close to a vein or
midrib on opposite sides. Elliptical
very flat, the skin thin and soft
1.4 x .8 x ? Egg seems soft and
supported partly by the rib. Skin
delicate, colorless, covered with narrow
irregular reticulate white lines.
These are rather faint, the meshes
a little elongate in various directions.

Skin d. & l. smooth except for the scirrhi, irregular clear granules the surface faintly sunken depressed which is all there is of depressed areas.

Thorp July 18 (late hide) Same as affinis but more like max. Skin more densely watery granular, the granules coarser. A lanceolate tooth on 12. Sd ridge with a yellowish white distinct line 3-tooth. A row of dorsal yellowish dots 5 of them distinct (5-9). Ridges (sd & lat) giving undulating firm tubercles. Setae short distinct, dark. Spinacles whitish yellow. Eye black mouth brown. W 14. No areas, skin uniformly densely granular.

Eating whole leaf July
20-21. Grasper lines
indicates hole just
like the rest, granular
manure & seeds.

dark, not yellowish green, nor very black.
Hd 1.2 (base on back) leg. Jul 22 - Jul 24 (length)
Jul 26 am molting Jul 26 10 am Hd 1.4 ± over 1
and appeared less than 1.5. Length 7.7. Sex 247

appearance of the normal 7th inst.
lines the 1st faint 7th dorsal
(a white shade really present here)
passing to caudal horn. These
lines except the one shaded above
centrally with dark purple
horn large curved dorsally but
bristly spinose, reddish. The
spines blackish below tipped
with white, spinules orange except
the upper 2 lower part narrow.
Later the whole insect becomes slightly
enriched with red like the green inst.
appearing as yellowish dorsal shades
horn dark brown (dorsal yellow shaded
as sides & spiracles with duskyish oblique
lateral lines except the last indistinct
but strongly marked above with dusky
purple shades)

(dead)

H. F. L. Y. ^{collected} 2/5/91.
226 = 729
YOSEMITE, CAL.

Larva bores in wood from
from Grace July 31, 1890. Body pale
brown mottled with darker brown
& a black stripe at the side carrying
the eye. Mouth parts largely black
labrum pale, narrow by brown above
jaws sharply denticulate in the ends
a few hairs! W. about 3 mm. Body
large testaceous c-spot edged
with black below & narrowly limited
by a whitish dorsal line. Head
whitish with a dull purple stripe
in S. of the ob. ant. another lateral
more extensive & tracing one or
over. A number of brown-black
blotches in 2 irregular trans rows
per seg. of varying size. Anal
plate testaceous shaded with

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YOSEMITE, CAL. 35-10000

makes on opening in stern spiracles
 as narrow ant. 1 post. 2 papillae
 in stern. Pupa Aug 28 Cylindrical, &
 unusual length in comp. with width
 obtusely rounded ant. wing cases
 rudimentary, prominent, (stigma a little
 above abd. seg.) prominent about 1/2 in.
 1 covered with 2 sharp denticles
 apical. Cases cracked, 1st seg.
 punctured on ant. edge. Color
 reddish brown, body lighter. L 20 mm
 5 mm. Image Sept 30 Cathu 3323
Latyrus cataphracta (K5)

calli	5	18	1.3	2.2	3.3
have	-	-	-	2.2	3.3

227

Heaped larva on surface near the rock
 which was a little more than 1/2 inch deep.

227 A

egg like Stenopola but higher and all opaque white, slightly shining; conical, base flat 1 mm diam, .8 high, of the 1st flattened. Retardus translucida Joff. H. 9th June 1909 Retardus trans-
lucida, this species well recognized obscure, finely dotted between the reticulations, paired to each. Paired with larva and 1 egg. Big head, various legs and antennae and 8 antennae. White to black colorless at 1st or 2nd stage. White to black

labrum pale yellow, bases of ant. white

H. G. DYAR

YOSEMITE, CAL. 35 mm

blackish at the sides. Larva
found in a Yosemite, CAL. 35 mm
larva on feeding in stems of pine
some stems cut. & put. & pupate
in stem. Stem of 22 Cylindropuntia, &
unusual length in comp. with width
obtusely rounded end, wing cases
marked with brown lines, (to wing a little
past abd. seg.) narrower about base
& rounded with 2 sharp divergent
shades. Cases raised, not flat.
punctured on ant. edge. Color
cuddish brown. Body length 20 mm
width 5 mm. Imago Sept 30 Cat. No 5323
Latyria cataphracta (H.S.)

calc	5	1.8	1.3	2.2	3.3
have	-	-	-	2.2	3.3

227

Head larva on yellow near the rock
July 31, 1895 Hd 2.2 mm Hd subquadrate,
deeply depressed vertically, the lobes
squares, irregular, gently bulging in
front. Pale brown heavily granulated
the horn darker brown, shaded black
front. head and mouth: labrum, ^{base of palpi} with
the rest of a mouth black. Central spot
not nearly corners, entire body with
all the legs concolorous brown, ^{except center}
thorax & strongly flecked with white
a white S-d line, not reaching anal
segment and fading out cent. on 3.
Pulsating dorsal vessel seen darker
Stage 3.3 mm Hd shaped as before, but
paler brown, black shading just nearly
absent, mouth eyes & antennae pale
labrum pale yellow, bases of ant. white.

bodies as before, joint 2 above smooth
& lacking the flecks. Thoracic part
very pale testaceous. Folds over part
of a leaf for its habitation.

[Egg shell, flat at base, a little narrower
at top than bottom cylindrical (top gone)
11 sharp vertical ribs. Diameter $7\frac{1}{2}$ inches
the entire surface of the leaf]

all over the leaf

Probably *Nisoides icelus*, Link.
(See W. H. Edwards, Can. Ent. XVII. 98.)

Riley describes this in notes to Linton and
Boudier 1891

H. G. DYAR

Copied
11-12-90

228

YOSEMITE, CAL.

Cerura? egg on Wild cherry July 31, 1890

less than hemispherical, subconical
slightly minutely elongated, black
a little lustrous but not shiny.

[On same tree by 2nd stage? Hd

brown not shiny, upper half darker
mouth parts blackish. W 11.1 mm
Cervical horns short, spinose, tail 5 mm
only slightly spinose. Body purple brown
over dorsum nearly to spiracles, all around
on 2-4 & ventrally on 11-13 the rest green
black centrally a little paler especially
on 4 & 5 except a dorsal line there. Spinose
minut. black ringed. Tails dark
red brown three acuminate with
whitish & tipped with same color. 4
transverse horns 1 mm spinose to each seg.
The 1st black. Labrl. green.

molt 3 Aug 6 Hd brown lineations dark wing red
pale on lower part minutely but whitely
marked with little pale spots, legs black
antennae pale. W 1.6 mm Cervical horns tan
beaded each with a pair, tails spinose.
Wings black 1st to post about 2 inches, joint
2nd all white, 12 & 13 ventrally & tails but
over the head & collar sides brownish
brunneous, rest of body green. The feet pale
testaceous. Setae tubercles as before

Calc 7 1.1 1.6 2.4 3.6 8.68

found - 1.1 1.6 2.5 3.6

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YOSEMITE, CAL.

On stage advancing the color
fades but on 4-5 leaving a patch on
2 & 3 narrow. YOSEMITE, CAL.
A narrow dorsal line on 4-13 sides
marked on 4-5.
Molt Aug 11 Hd brownish wine red, the upper
3 thoracic coxae with little sand which
lets but leaving a narrow line of the ground
color each side off to central suture. Prothor.
or yellowish at the side post. Eyes blackish
antennae white, brownish toward tips.
W 2.5 mm Cervical red brown apiculated like
the head but less beaded; the horns
thick tuberculated, tails 9 mm curved up
a little at the ends, spinose, red brown
tine acuminate with apical white. * Body
a little elevated at 3 post but without
any process on 4. pale green with a dorsal
dual ferruginous brown band, 5 on 2 &
covering the horns reaching to a line on 4
underlying as air to just reaching spiracles
W 8, narrowing & reaching a minimum in
the suture bet 11 & 12 (but still quite wide
widening a little & slightly contracting to
cover anal plate. The anal condensation
minutely tubercles, 6 is faintly bordered
with yellow. Spiracles pale rober.
white pale, whitish with a purple suture
line on 12 & 13. Feet concolorous. *
thoracic tubercles at base with a whitish
ring (than black). As stage advances some
molt Aug 13 Hd brown red, red in front, the rest
a little depressed, labrum with 2 vertical ridges
purplish brown Spl & anoths redder than black
cuticle antennae red disk, bases yellow. red
yellow pale at outer post. eye black. W 3.6 mm

black. Feet pale between the
dorsum and a small white
spot on the bases. Length 42 m
By a glass the body is seen to be
quite thickly covered with minute
whitish granulation a few of
which are larger than the others
and bear a black spin.

(see Sept 25, 1891)



[4 same @ shot]

[on 12 ① is larger
② small, blackish]



← 13 ① single, ② tiny
③ large ④ ⑤? tiny
or is it ⑥? ⑦ S-V
⑧ indistinguishable
on 14 ① in ant 5 on edge

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H. G. DYAR
11/9/90
YOSEMITI, CAL.

at the
bottom
of the
depression

Satania perspicua or *Rhynchospora*
Hy 5, 1890 Egg sub-pyriform, flattened
at base, domed at top, thin base.
Base flattened at top, a little also
depressed centrally in a point just
black but very small or indistinct. At birth, the
top like a lid, whitish, all punctured
w. 9 mm Height 8 mm (3 ventral)
Stage 1.1 mm Hd black, thorax red with 4
yellow lateral stripes, head as wide as
intervene spaces, a small conical
post. ospot, legs 2 anal plate black
no also hair from hump, black tubercles
anal set hairy, 2 on each anal. 5 mm
Stage 1.1 mm Hd black, thorax then white,
a little punctured, c-spot, anal plate
black, black, then spots, blackish from
the dorsal tubercles, body colored as
before.
Stage 1.6-3 mm Hd shiny black, punctured
out smooth. C-spot anal plate & this feet
black. Body dark red, stripe 4 lateral & 3
ventral yellow black; dorsal black spots
abd full red, anal black, 4 tubercles
head & legs blackish, blackish
Neph. hatched. Hd black 2.5 mm shiny
metallic with a red red line
with a yellow line extending
from black black black black

H. G. DYAR

partly confluent post, dorsally erect.
Spiracles black, larger than before
or head bright wine red, horn faint,
spl, eye & smooth black body, caput
& anal plates wine red, stripe broad
sulphur yellow, moderately confluent at
both ends. Tars & anal feet, & abd ventrally
very slightly black. Horn & white
blackish sub-murine, short fine lines.

Walt #54 Hd somewhat depressed or
 entire; 1/2 fl, shiny, punctate. Black
 or dark brown with wire and on the
 up to 3/4 fl. pale W4.1 mm (Hd ^{in some cases} black)
 corolla 2-3 mm. not petals & long exserted
 style the style is short or less wire red. ✓
 stamens long ^{suffrutescent} yellow, corolla
 confluent posteriorly. [Hd. when mature
 abundant but not long, with other
 more numerous shorter stamens. hairs
 less; and. seed a little reddish.]

One below a spot, and a patch of small (apple
red) wine red, rather bluish red & tinged)
One has streaks, esp. especially, however & much
interrupted, the other has only some little motion
less, but all, black. Another somewhat less.
Up to May 20 April 20 of abd legs small, rounded
in black, dark, color, motion, black, smooth.

231

Proctotrich center grass, Aug 4, 1890.
Red wind, pale brown, reticulated with
black & 2 curved black bands in
front feeding. Spl & 11 above to center
center W. uniformly thickest in the
middle & tapering to each end. dull
dusty brown marked with black.
in fine long lines the only dentate
one very a broad s-d band,
SV space darker. A dorsal s-l line
band a little dark dots closely placed
expanding in the center of each seg.
& contrasting again in the sutures.
Spines black. very small white
tubercles bearing pale spiny hairs.
(no pupa)

L24 W 7 mm / Imago Aug 23, 1891 at Yosemite Cal
 Larva 1st inst. 1st stage, then 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212nd, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 297th, 298th, 299th, 300th, 301st, 302nd, 303rd, 304th, 305th, 306th, 307th, 308th, 309th, 310th, 311st, 312nd, 313th, 314th, 315th, 316th, 317th, 318th, 319th, 320th, 321st, 322nd, 323rd, 324th, 325th, 326th, 327th, 328th, 329th, 330th, 331st, 332nd, 333rd, 334th, 335th, 336th, 337th, 338th, 339th, 340th, 341st, 342nd, 343rd, 344th, 345th, 346th, 347th, 348th, 349th, 350th, 351st, 352nd, 353rd, 354th, 355th, 356th, 357th, 358th, 359th, 360th, 361st, 362nd, 363rd, 364th, 365th, 366th, 367th, 368th, 369th, 370th, 371st, 372nd, 373rd, 374th, 375th, 376th, 377th, 378th, 379th, 380th, 381st, 382nd, 383rd, 384th, 385th, 386th, 387th, 388th, 389th, 390th, 391st, 392nd, 393rd, 394th, 395th, 396th, 397th, 398th, 399th, 400th, 401st, 402nd, 403rd, 404th, 405th, 406th, 407th, 408th, 409th, 410th, 411st, 412nd, 413th, 414th, 415th, 416th, 417th, 418th, 419th, 420th, 421st, 422nd, 423rd, 424th, 425th, 426th, 427th, 428th, 429th, 430th, 431st, 432nd, 433rd, 434th, 435th, 436th, 437th, 438th, 439th, 440th, 441st, 442nd, 443rd, 444th, 445th, 446th, 447th, 448th, 449th, 450th, 451st, 452nd, 453rd, 454th, 455th, 456th, 457th, 458th, 459th, 460th, 461st, 462nd, 463rd, 464th, 465th, 466th, 467th, 468th, 469th, 470th, 471st, 472nd, 473rd, 474th, 475th, 476th, 477th, 478th, 479th, 480th, 481st, 482nd, 483rd, 484th, 485th, 486th, 487th, 488th, 489th, 490th, 491st, 492nd, 493rd, 494th, 495th, 496th, 497th, 498th, 499th, 500th, 501st, 502nd, 503rd, 504th, 505th, 506th, 507th, 508th, 509th, 510th, 511st, 512nd, 513th, 514th, 515th, 516th, 517th, 518th, 519th, 520th, 521st, 522nd, 523rd, 524th, 525th, 526th, 527th, 528th, 529th, 530th, 531st, 532nd, 533rd, 534th, 535th, 536th, 537th, 538th, 539th, 540th, 541st, 542nd, 543rd, 544th, 545th, 546th, 547th, 548th, 549th, 550th, 551st, 552nd, 553rd, 554th, 555th, 556th, 557th, 558th, 559th, 560th, 561st, 562nd, 563rd, 564th, 565th, 566th, 567th, 568th, 569th, 570th, 571st, 572nd, 573rd, 574th, 575th, 576th, 577th, 578th, 579th, 580th, 581st, 582nd, 583rd, 584th, 585th, 586th, 587th, 588th, 589th, 590th, 591st, 592nd, 593rd, 594th, 595th, 596th, 597th, 598th, 599th, 600th, 601st, 602nd, 603rd, 604th, 605th, 606th, 607th, 608th, 609th, 610th, 611st, 612nd, 613th, 614th, 615th, 616th, 617th, 618th, 619th, 620th, 621st, 622nd, 623rd, 624th, 625th, 626th, 627th, 628th, 629th, 630th, 631st, 632nd, 633rd, 634th, 635th, 636th, 637th, 638th, 639th, 640th, 641st, 642nd, 643rd, 644th, 645th, 646th, 647th, 648th, 649th, 650th, 651st, 652nd, 653rd, 654th, 655th, 656th, 657th, 658th, 659th, 660th, 661st, 662nd, 663rd, 664th, 665th, 666th, 667th, 668th, 669th, 670th, 671st, 672nd, 673rd, 674th, 675th, 676th, 677th, 678th, 679th, 680th, 681st, 682nd, 683rd, 684th, 685th, 686th, 687th, 688th, 689th, 690th, 691st, 692nd, 693rd, 69

232

Eggs on poplars, Livingston Nov 5, 1890.

Elliptical, flattened a little above & below
 punctured, green with a pinkish
 line at one side. L 1.5 mm W .8 mm H .1 mm

Hatched Nov 7 Hd ashd dull green, on
 white, smooth, whitish W .8 mm Body
 pale green, annulated, pilose, caudal
 horn long, black, yellowish at base
 slightly spinose. Leg. green. L 5 mm

Molt Dec 12 Hd ashd, green covered
 a little yellow granulation, a
 line on each side of each lobe. White
 body green, greenish. The green
 yellow & larger is a sd line and
 7 oblique lateral line. Claws pale
 horn granulated. The feet blackish.
 As stage advances a sd row of reddish
 spots appears. Molt 3 times 18 Dec as

before, a pale line from vertex down
 each side front & sides, granulated
 white W 2.6 mm Rod as before the gran.
 white and yellow & large is sd line
 2-5 & 7th striae. Stage 1 & 6 faint
 a crimson spot on each side ^{3-9 line} above
 sd line. Horn spinose, pinkish, with
 a black line on top & stage 7 moving
 up each side. The feet blackish
 spinose, other is dark brown ring.
 Molt Apr 27 Hd Δ granulated, with
 line from vertex ocelli nearly reaching
 at vertex & sides yellow, green, white.
 Jan black, 'clippers' dark brown, eyes
 blackish W 4.2 mm Body solid green
 the latter granulated white beneath
 accompanied by a white band on
 sd 2-5, 7 oblique lateral 1, faint & 6
 less faint 7 very dark, from above

line of foot 10 to horn & tinged with
pink. Horn pale blue, purplish below
more white granulations, pink spot
on head hardly observable, spiracles black
white centrally. The feet blackish
wardly, purplish outwardly.

9. Sept 89 (also on oak ^{beech} Sept 20, Oct 6.1)

[A. in Linden Oct 5.6 on Oct 20 same but not
white. Body same, olive in 1 not faint
ly, faint, well shaded, down back a
little smaller as if with a "saw". Horn
light green, the feet, purplish, not at all
no pink tinge in band 7 & no spots]













Pupa 5-17

~~not found.~~

Oct 8
1892

233

Prunus serotina

~~not found.~~ The wild cherry dry 5-9s of 1st class.
Hd            

base of ant 10 to horn & tinged with
pink. Horn pale blue, purplish below
with white granulations, pink spot
sd hardly observable. Spermata black
white centrally. Thor. feet black in-
wardly, purplish outwardly.

3. Sept 9 (also on oak ^{beech} Sept 20. Hdt 6.1)

After hatching 5.6 on Hdt same but not
white. Body same, white not faint
to faint, all shaded, down back a
little ant 11 as if with a "run". Horn
light green, the feet, purplish, but at base
no pink tinge in band 7 & no spots.

Reaper 5-17


~~not found~~

epid
Jan 8
1892

not met

233

Prunus carolina

~~not met~~ The wild cherry ^{sp. 90} ~~sp. 90~~ ^{sp. 90} ~~sp. 90~~
Hdt  ~~not met~~ ^{sp. 90} ~~sp. 90~~ ^{sp. 90} ~~sp. 90~~
2 sides marked with large blotches of
pink, back of head white, ^{clay fins} ~~clay fins~~ ^{clay fins} ~~clay fins~~
an area outside it, green. Mouth & eyes
brown. W2 horn a few lines. Body ^{enlarged} ~~enlarged~~ ^{enlarged} ~~enlarged~~
densely at 12, with 5 rows ^{on each side} ~~on each side ^{on each side} ~~on each side~~
bearing a ^{black} ~~black ^{black} ~~black~~ ^{black} ~~black~~ ^{black} ~~black~~
shield ^{shield} ~~shield ^{shield} ~~shield~~ ^{shield} ~~shield~~ ^{shield} ~~shield~~
brown dorsal stripes containing a red
line centrally & edged with yellow
covering the first 2 rows of warts and
ending at 12. Head & body ^{with} ~~with ^{with} ~~with~~
a faintly indicated white stop line
Spinules small, black, ^{ringed} ~~ringed~~ ^{ringed} ~~ringed~~
Hdt Aug 11 Hdt ^{black} ~~black ^{black} ~~black~~ ^{black} ~~black~~ ^{black} ~~black~~
a little paler. the upper 1/2 of ant nearly
to upper half at the sides 1/2 to 1/3 orange
red, all a little shaded but still~~~~~~~~~~

Acronycta or *Anelachne* *condensae* J.H. Wt.
 June 26 '95 Hd bilobed large, pale behind
 but thickly dotted all over front caper
 with light brown-red. Spale, eyes black
 W. 2.2 \pm Body greenish white, not very
 opaque - a broad (ii) d. olive green band,
 brown tinged 2-12. Ventrals brown
 has black & white rather sparse, a few
 pale 23 2-V, but not many. Ventrals
 line white. Later side green, d. band
 2-12 brown with faint red yellow edge
 Hd more above shading to pinkish on
 side, no black (cf 492) Later a central
 reddish d. line in brown band. Ventrals
 green from 528. D. band broader, even, not
 scalloped like and not into 13, yellow like faint
 green a tubum like web in center of upper side of
 leaf and joint 2-headed as it.
 Molt July 2 Turned into radcliffei. D.
 line red, turning yellow.

If not called for in 10 days, return to.

Herring-Hall-Marvin Co.

CINCINNATI, O.



Mr Adams House
Jefferson High



HARRISON G.

5

Acronycta on Chamaelasma 233

Head pale a little brown tolled in from 1-2
Body pale, good green, no white except
an orange patch on 12 over i iii. Hal-
blende a white vent & with some
of hairs. A few 2d. Vent concolorous





No 234 Hd below pale, dusky orange dotted on
face strip below on 2 on side dot separate into an-
gular patches on 1st 2nd pale whitish foot green a
vampy foot d 2 of white lines, the slightly en-
larged 2 to iii shaded with orange. Vent & legs
hair dark short pale, a few of 5 & 8 pale. A little
later a pale horn d about full in whole d
area 2-12 between tip & replace orange on
12, all cut & a narrow red d line.

(234) = 233? Resembles radcliffei

under July 10 - 702.5 - Like mature red.
differ lateral line greenish, dorsal
red-brown, rest of body 2, 12-13 black.
Hd black apices of lobes brown
Ventr lat line yellow. Ventr all lines
yellow. Holds up its head when disturbed

July 19 all eaten by a large maggot.
This account for small size and
weak behavior?

furnished

with a few hairs, W 3.3 mm Body colored
a.     c. spot with 2 rows
of small warts, black as are also
small ^{small spots} later a few. Warts small "

in about 24 per seg. Setae short on
venter of legs, segs, pale, bearing thin
long whitish hairs. (7mm) Body black
pale ventrally, a dorsal red line
from 3 to 11; 2 lateral & 1 subventral line
pale yellow, the upper ^{line} 3-11, the lower
2-12, confluent posteriorly. ^{one} X

purple. white with a black border
 (~~at the top of the~~) the stage
 advances the dorsal line fades to the color
 of the water. ^x the subtop. band is broader
 than the other & reaches nearly to the top
 of 13. reaching or reaching to the top of 12.

up to Cor. Aug 23 on wood
at least 100 ft. in. Trunks

By calc. .41 .62 .95 1.4 2.2 3.3
have — .6 — 1.3 2.2 3.3

234 (see 530)

S. inclusa on *Populus* in house Aug 7, 90
Egg Obtusely conical, almost hemispheric
but a little cloacate, the base flat.

Ernst
Stadler

body
fwd to

Train &
a table

lion
quint

Stage 1.3

Buddy's
ed, id

slate


Line 1

2. Line trifurcate, the vent. black, 3-4
and with brown spots & the vent. black

<u>Calc.</u>	49	78	1.25	2.14	3.4	$\frac{2}{100}$
Spended	45	75	1.3	2.1	3.4	

small. were secondary beam, the old
shrinked fine pile. in small, found
and as the old as other
mostly did but a few ligs. and about 10m.
June 20 149 2.1 ±
June 25 149 3.3 ±

furrowed

larva 3.3 mm. Head yellow
a.  c-spot with 2 rows
of small warts, black as are also
head plates & feet. Warts small
in about 24, in 25 besides these in
middle of legs segs, pale, bearing thin
long white hairs. (7 mm) Body black
pale ventrally, a dorsal red line
from 3 & 11; 2 lateral & 1 subventral line
pale yellow, the upper ^{line} 3-11, the lower
2-12, confluent posteriorly. ^{one}
line also white with a black border.
(24 strongly minimia ~~but~~ a) In stage
advances the dorsal line fades to the color
of the skin, the subventral band is broader
than the other & reaches nearly to the top
of 13, reaching a bunch to the top of 12.
which bunch the 2 other lateral lines
nearly reach, in Aug 23 on wood
4.1 mm. Head yellow. Image 7.11.19

By calc. .41 .62 .95 1.14 2.2 3.3
have - .6 - 1.3 2.2 3.3

234 (see 530)

I. inclusa on poplar in house Aug 7, 90
Egg Obtusely conical, almost hemispheric
but a little elongated, the base flat.
Smooth, shiny. Diameter .6 mm Color?
Stage ^(.6 mm) 6 mm. Head black shiny, base pale
Body yellow, c-spot, anal plate & terminal
feet black; on 5 & 12 elevated dark
brown spots; 3-d & 4th segs row of brown spots
& triplets dorsal, single lateral line
brown line besides 2-8 brown dots. Warts
small. brown, piliferous.

Stage 1.3 mm. Head black shiny, black shiny
Body yellow, broad lateral band pale
edged above & below by a row of large
elevated black spots over a fine brown
line & centered with another anal line
& line triplets, the vent. black, 3-8
area with brown spots & the warts black

Egg on wickus leaflet in hatch of 40±
 Tnd. Dec 14-9. 1896 on under side. color
 pale purplish, black heads & bases soon
 showing in water. Reticulation small,
 very narrow, the cell area rounded.
 In some lights looks like pile at angles,
 the pores seem to be short & faintly produced.

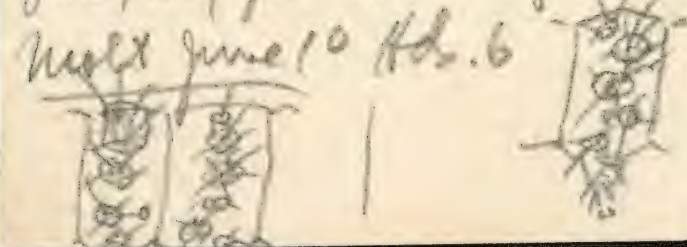
Hatched June 6 Hd. bilobed, smooth, pointed
 shiny black, w. 45 mm. Body pale
 greenish the venter & a central d. spot on
 5 and 12 brown; hair scanty - pale.

Cd. 1 mm. dark; trace of double sd
 line below ii. Setae
 normal vi absent
 iv & v in line on 9-12,
 ant to the iv post seg.



Setae normal on thorax is smaller than i-6
 Body covered with long seticular points. On
 5 & 12 i slightly enlarged & approximate, a a
 patch of orange brown. Body really greenish
 later all shining yellow, venter brown.

June 9 very yellow, trace of triple sd line ii-iii.
 Molt June 10 Hd. 6 6 warts on 3 & 4!
 vi present, small, faint,
 elongate, wart
 printer, a central



hair crown: Stern spines long, crowded,
a single 2^d hair below, behind it not
on a wart, no general 2^d coating. Sub-
primaries on thorax not certainly present.
There is a seta behind vi, but it has no
tubercle and looks secondary as there is
also a like one behind v on abdomen
vi (thorax) several haired, but not surely
derived from 2 tubercles. it probably is how-
ever as there is not a distinct crown of hair.

Molt June 15 Hds 1.3-1.4 (sh hd .75) [See alcohol]

See 234 for marks. 5 & 12 i high large
approximate warts same, is on 3^d
small; more secondary hair, besides
abundant fine pile. vi small, seemed
not as black as others.

Mostly died but a few left. Done shed A.M.
June 20 Hd 2.1 ±

Molt June 25 Hd 3.3 ±

Calc.	.99	.78	1.25	2.14	3.4	$\frac{63}{100}$
Found	.45	.75	1.3	2.1	3.4	

brown. On 5 & 12 the dorsal warts
are enlarged & covered by a black
patch. C spot, anal plate & all feet
black. A few white hairs.

Stage 2.2 As in 1.3 but the lateral
band is darker, grayish, all the
warts small, black, but on 5 & 12
a slight dorsal hump surmount
by 2 elongated warts. Feet all black.

Stage 3.3^h Hd black & long, with
a bunch of hairs. Body as before
the tubercles on 5 & 12 long, pedicel
Body yellow, lateral band blackish
line as before, black, a strip brown
on 5 & 12. These somewhat change
the vent the fuler. C spot anal
plate & the feet black. Abd feet
a little blackish on the side.
Vents pale. At most 5-8 region has
a orange top.

Crown of silk, thus webby, between 2
leaves.

2. *Phaenocarpa* cylindrical, very active, flattened
on the ventral side posteriorly, head
rounded, not prominent, slightly
contracted behind thorax, followed
by 2 ^{small} elevations close together on the 2nd
abd. seg. Abd segs gently tapering
the last 2 rounded, all warts &
long spine curved forward and
curving in 2 recurved hooks like
the letter T. Color black on tho-
rax & coxae, body dark reddish
brown. The coxae smooth, blackish
curved; body punctured. L 14, W 5 mm
Imago Jan 10, 1891.

Ichthyura inclusa var
another typical
(Cocoons were finished up on the side of 28 and all
the pupae produced with the last on March 5)

copied
8/15/90 H. G. DYAR
235

YOSEMITE, CAL.

Datana or *Heliothis* *in* *Arctia*
Notes, White Canyon, Aug 8, 1890. *Ectophaea*
5 mm. Hd. black shiny. Body brown with
lateral & 3 ventral ^{sub}yellow ^{ish} spots
wider than the intervening spaces.
C-shd. anal plate & feet black. 33
Hairs from minute blackish points.
Prothor. & 1st. ^{as a fly to wings} higher than wide, blackish
brown black shiny smooth W. 9 mm.
A few pale hairs. Pro. reddish brown
the stripes yellowish, but the same
width as the intervening spaces. C-shd.
anal plate & feet shiny black. *Ectophaea*
Egg in batches of 75 or less on under side of
leaf of *V. stamineum* near top of bush
subglobose, flattened & hollowed out
at base. The top is centrally strongly
depressed, the depression surrounded

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YOSEMITE, CAL.

by a circular elevated ridge
& considerable number
of the ventral is a circular puncture
depression resembling a water hole.
Color even smooth white not shiny
his subulations like winter scales.
Diam 1.1 mm Height .8. The larva hatched
by eating a hole in the top lid into the inner
shell. Said touching the top up, 1 day.
5th 4.27 mm Hd. higher than wide, rounded
quite flat in front, depressed a little
in the anterior 1/3 top / ^{furrowed} *Dpl.* 8 fine
line. Color black blackish and to
light mahogany and red with an
^{On different compounds of compounds} orange tinge, the eyes & jaws black
labrum & antennae yellowish the
^{becoming brownish} latter black mixed. Body blackish
^{pale} striae 6 lateral & 3 ventral ^{yellow}
almost white, the ventral ones lighter
gray near as wide as the intervening spaces

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YOSEMITE, CA

The subventral ones interrupted
by the reddish lines. The legs and
the reddish spots on the legs segments
except joint 13. C-spot, anal plates, the
feet & abd outwards shiny black
the anal plate ^{punctured} narrowly bordered
with ochre yellow. The stripes all
run nearly to the end edge of 12,
except the 1st one which stops at 11
they end before reaching anal plate
on 13 except the 3rd lateral & central
ventral. Hair thin short whitish,
& from minute black tubercles.

[Stage 3. 1.6 mm. head shaped as in the next
stage. color black to ^{blackish red} reddish black
clips & mouth black. Body dark reddish
brown, the stripes dull yellow, as in
the next stage, the subventral
ones interrupted with having the legs

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YOSEMITE, CA

and corresponding in the legged
segments. C-spot, anal plates, the
feet & abd outwards shiny black a few pale short hairs. ✓
Head 5 mm 4.6 mm. head as high as wide,
rounded, a little flattened at the
extreme front depressed at the vertex
at top of 1st ^{very minutely punctured} a few blackish hairs ✓
in some a little brownish of color of cherry
stones. Color light reddish orange. Labrum and feet
antennae paler. The latter with
2 black rings. Jaws black, eye blackish.
Body black the stripes pale yellow, narrow
blackish than the inter-stripe spaces.
continuous from c-spot and end edge
of 12 to top of 13. On 5-9, 2 punctured white
& irregular on 12 & 13 broadly on 12 & 13
3rd lateral, reaching the anal plate
C-spot, anal plates, & ^{abd} feet except
an outward blackish band on the
latter, concolorous with head.

YOSEMITE, CAL.

H. G36DYAE

9/13/90

The major on the Yosemite "Moose Hole,"
 dated 1894. Aug 12, 94. Reddish-brown,
 rounded W. 5 mm. C. spot anal plates, the anal
 spot & abd. outwardly black. Body
 wine red, a broad red lateral yellow
 band each containing a fine red line
 no line on venter. A number of large
 brown punctate dark brown spots
 on the C. spot line. C. spot
 Sub-pyriform, cylindrical & of the
 same form for a little way before summit
 recalling palmi, flattened at base &
 acute at top. ^{at base} ^{at top} ^{with a central spot} ^{uniformly} ^{black} ^{color} ^{color}
 whole shape with a central spot. Color wine red
 Incl. Body 10 red shiny plate & with a
 thick brownish tinge, rather light
 than dark, rounded. W. 1 mm. ^{yellow} ^{greenish}
 wine red, the two pale yellow bands
 as before, very wide, reaching on to

H. G. DYAR

YOSEMITE, CAL.

larva. This larva is that
all the YOSEMITE, CAL. and color
is a narrow d. & s. line. Venter
wine red with a central narrow
pale yellow line. C-3/4, feet & anal
plate black. Body minutely pilose, a
few very small warts, anal feet
lacking. Rather long larva (from C-3/4).
End the whole larva. As stage advances
the branches are somewhat more distinct
distinct by the ground color which becomes
almost white with a yellow tinge.

Inst. 3. Hd higher than wide, narrow
being a little towards the apex, depressed
at sutures. Color dorsal orange, the sides
more black. W. 1.5 mm. C-dot black
more partly orange, feet & anal plate black
& shiny. Body blackish brown, the stripes
as before yellowish white, obsolete.

dissected H. G. DYAR
color. Venter blackish brown, with
trace of a central white line. Base
& legs & corresponding spots on legs as
before. Dorsal wine red or orange tinted.
Spines & the minute tubercles black.
Hair conical white, short but a few
long ones overhang the head. Body
yellowish white, a d. & s. line, faint & s. d.
distinct lateral & faint s. d. line and
venter except as above all blackish brown.
As stage advances the dorsal line becomes
distinct & the ground color is deep brown with
very little dorsal clear white. As the
larva only the dorsal line & very ventral line
are a little s. d. interrupted & black & s. d. line
is scarcely distinct but narrow.

Inst. 4. Hd as before, brownish red, the
mouth, antennae & eyes black. W. 3.1 mm.
Dorsal black & lateral stripe each side
clear white, broader than the intervening
spaces, and there are 3 ventral lines separated
by a few linear dots. In some examples some
are absent. C-shield blackish brown, anal
plate black or part brown, the dorsal & s. d.
obscurely black. The bases of legs & cor-
responding spots on legs as before, mouth
red, hairs white short, dorsal & s. d. lines
some gray from minute black warts.
The stripes are not confluent at ends
and though in some there is a tendency

* S-V by breech-plot bet 7-8, 8-9, 9-10, 10-11, 11-12

H. G. Dyar

YOSEMITE, CAL.

4. a the separating boundary line. As shown

at advances the head being marked red

2. Molt 5-12 Immediately after molting

As the color have been changed
the depth the strokes are continuous as in

be the previous stage, but in a few hours the

and the larvae do not feed during the

not eat them shed skins or eggs of y. This

90. Ed. approx. as high as middle of page -

depended in several places, principally

71. *Salvinia urinalis*, Color light blue-gray.

Crater Lake, Antelope & Rabbit Creek

(c) with plate in light, where brass and

Marshall's Black, the opposite of the

4. White murex, a few grains W.S. 3. 1/2
7. ... abel. 1/2

74. *Chelodactylus*, *analis* *plate*. *1* *2* *3* *4* *5* *6* *7* *8* *9* *10* *11* *12* *13* *14* *15* *16* *17* *18* *19* *20* *21* *22* *23* *24* *25* *26* *27* *28* *29* *30* *31* *32* *33* *34* *35* *36* *37* *38* *39* *40* *41* *42* *43* *44* *45* *46* *47* *48* *49* *50* *51* *52* *53* *54* *55* *56* *57* *58* *59* *60* *61* *62* *63* *64* *65* *66* *67* *68* *69* *70* *71* *72* *73* *74* *75* *76* *77* *78* *79* *80* *81* *82* *83* *84* *85* *86* *87* *88* *89* *90* *91* *92* *93* *94* *95* *96* *97* *98* *99* *100* *101* *102* *103* *104* *105* *106* *107* *108* *109* *110* *111* *112* *113* *114* *115* *116* *117* *118* *119* *120* *121* *122* *123* *124* *125* *126* *127* *128* *129* *130* *131* *132* *133* *134* *135* *136* *137* *138* *139* *140* *141* *142* *143* *144* *145* *146* *147* *148* *149* *150* *151* *152* *153* *154* *155* *156* *157* *158* *159* *160* *161* *162* *163* *164* *165* *166* *167* *168* *169* *170* *171* *172* *173* *174* *175* *176* *177* *178* *179* *180* *181* *182* *183* *184* *185* *186* *187* *188* *189* *190* *191* *192* *193* *194* *195* *196* *197* *198* *199* *200* *201* *202* *203* *204* *205* *206* *207* *208* *209* *210* *211* *212* *213* *214* *215* *216* *217* *218* *219* *220* *221* *222* *223* *224* *225* *226* *227* *228* *229* *230* *231* *232* *233* *234* *235* *236* *237* *238* *239* *240* *241* *242* *243* *244* *245* *246* *247* *248* *249* *250* *251* *252* *253* *254* *255* *256* *257* *258* *259* *260* *261* *262* *263* *264* *265* *266* *267* *268* *269* *270* *271* *272* *273* *274* *275* *276* *277* *278* *279* *280* *281* *282* *283* *284* *285* *286* *287* *288* *289* *290* *291* *292* *293* *294* *295* *296* *297* *298* *299* *300* *301* *302* *303* *304* *305* *306* *307* *308* *309* *310* *311* *312* *313* *314* *315* *316* *317* *318* *319* *320* *321* *322* *323* *324* *325* *326* *327* *328* *329* *330* *331* *332* *333* *334* *335* *336* *337* *338* *339* *340* *341* *342* *343* *344* *345* *346* *347* *348* *349* *350* *351* *352* *353* *354* *355* *356* *357* *358* *359* *360* *361* *362* *363* *364* *365* *366* *367* *368* *369* *370* *371* *372* *373* *374* *375* *376* *377* *378* *379* *380* *381* *382* *383* *384* *385* *386* *387* *388* *389* *390* *391* *392* *393* *394* *395* *396* *397* *398* *399* *400* *401* *402* *403* *404* *405* *406* *407* *408* *409* *410* *411* *412* *413* *414* *415* *416* *417* *418* *419* *420* *421* *422* *423* *424* *425* *426* *427* *428* *429* *430* *431* *432* *433* *434* *435* *436* *437* *438* *439* *440* *441* *442* *443* *444* *445* *446* *447* *448* *449* *450* *451* *452* *453* *454* *455* *456* *457* *458* *459* *460* *461* *462* *463* *46*

On 2 level 1st on surface only or where it is behind or
2 by a \square spot above spiracle, 4 by the bristly mouth 2 by 1
3-12 on peristome; 13- 5 on each back 1 by \square with dist. of 2, 1 on
4 on 13 3 by \square , 4 by \square , 1 on 10th 5 on 5, 6, 11, 12 (not on 13 but)

2 correspondence after 1846 by 1848. 2 pages.
marked on V₂ with name, thing on list

USE AITEN CAL

with holes that I had used, which ^{was} the one
the thrasher got. And in some a white blackish outer

Both black, the ventral lines absent, or represented by a few white elongate spots.

and 4 broad lateral bands (each side) are replaced in part by the black ground color as

follows: The 2 wires in all the segments
between & beyond through the center of the

segment, the 3rd lateral (anterior) is broken
the same but less broadly in the center of the

segment with the 4th lateral (anterior) is
deepened differently; not in the same direction

just beyond the channel & above the lower edge of the post edge of the segment. On June 24 the

valid almost entirely dissipated and
on 13 posteriorly cell are absent, except the 3rd

Internally spindles, velvety black. In the
hair white, rather long, beside numerous

very minute "blasts" tubercles. (8 times under

all over plus 2 stars above (55) head white spots.

white spots on 3rd row 6 again between 1 & 2
between 1 & 2 about 1/2 inch from 1st row

Sept 4 stopped at night & began to rain. High 55-60

broken by the spindle \checkmark 10j entered ground 3/27/11 10:00

Pupa Sept 17 (from Sept 11 or 12) Same as diapauses

Quinn 2 pm crabs etc. (Hill) about 1000

7/8/97, 25/june! / 50/ + 24.2 (x 1, inst jura) 526, 18/june 18 2 jungs Wpr?

237 *P. acaphorites*

Egg on pickled ash, Aug 15, 1890 "Crested"

Spherical, a very little flattened basally
color dull grayish-buff ^{roughly} smooth

with a pale brownish substance which

gives the egg its color. Diam .14 mm

Hatched Aug 17 1st period black, brownish

above the head part of the antenna 3, 4

broadly defined by a pale band. W. 6 mm

Body with 3 rows of small brownish

shaded hairs, the row of row 2 on joint 2

the largest, then the others. Body brownish black

with 2 large pale ochre patches, one on joint

7, the other on 12. After 11 or 12 a little

larger 3 mm after shell.

Molt Aug 24 1st period black, shiny

minutely pilose. W. 1 mm Body black

with tubercles dorsal on 2-5 large, 4 small

the others small. Petiole 1 on 8 small

lateral on 7, the other on 12 as before

(Sept 1) 4th black shiny, hairs pale

W. 1.6. Immature, pilose, Body as before

the large tubercles shiny, minutely

pilose. Body enlarged at 324.

5th tubercles on 9 & 10 each with a

blue spot. White patches dull cream

color, the one on 12 with yellow

Tubercles on enlarged part larger than

others as are also on 9-13. Hair

each side 6-8 small large 4, all

As stage adv. body becomes brownish

small 5th black spot on 4

Molt Sept 5 1st brownish black, shiny

antennae rather deep 1.1 hairs, antennae

5 smallish pale. W. 2.2 mm Body

much enlarged at 424. dorsal on 4

4 ant, the spots represented here

by large shiny brown bands as

are the 5th on 7 & 10, all others

absent. Body enlarged at 12

color brownish brown, C spot

oblong, others its 2 s-d marks
minutely pilose, a s-d pinkish
band on 2 & 3 & s-d small black
subquadrate
ochraceous spot on 5 & 6. Genital plate
white with on 2-5, 7 & 8. A
pink patch of patch on 6, 7 laterally
& 8 also laterally extending a
white dorsally in 7, the dorsal part
tinged ochraceous. Another pink patch
on 12 & extending with 11, confined
at the sides. Spinules small, pale.

"Horns" dark, blood red.

Molt Sept 13 Hd. dark olive, almost
black, the sutures distinctly marked
with white; labrum & clypeus white.
Wh. minutely pilose 1.34 mm. Body
very slender centrally, greatly
enlarged 2-4 especially at 4, the
tub. dorsally at 7 and annule
at 12, appearing like 2 bumps con-
nected by the slender central part.
The warts have disappeared the
plates being taken by large round
slightly elevated spots, dorsal

sternum later tinged with pink

color dark ochraceous brown appearing
black, 2 is white, slightly & the collar
extending back each side in a broad
s-d band, becoming broken post. & ending
in 5. The other white patches are on
before the annule are distinct on the
sides of 6-8. Between 8 & 9 dorsally is a
point 5 is small & is shaded with gray
on the back. The last patch covers 11-12
except 2 or 3 on 11 & spots dorsally on 11 &
just in space on 12. It is shaded with
gray dorsally. The back is elevated in
a transverse ridge on 4 & 5, larger & e-
curved on 5, & these ridges are brown
lustrous, each 6 elevated spots sur-
rounded by a white ring & being repre-
sented by a vent. ① ② ③ ④, ⑤ on 1. ⑥ on 2.
A small blue spot above warts ① ② ③
3-5, 8 & 9, above ④ on 6 & 10. A spot
narrowly bisected by a white line & on
body and a foot, some very short dark
pile. The feet black. Abd. feet & abd.
venter whitish. The venter black.

July 129 Chrysalis

Same as Denver Col. P. cresphontes

flying on tomato. Last stage. Aug 22, 1901
 Hd. sharp pointed, green, ^{length 3.5} ~~eye~~ ^{antennae} ~~in~~ ^{3.5}
 labrum shaded black ^{W 6.5 mm} ~~W 6.5 mm~~ ^{body}
 annulated & ~~black~~ with many round
 white small spots, edged with
 blackish shading, on the rows per ^{5.11}
 noted. 7 oblique broad white lines,
^{from before spiracle to 5th joint edge of seg.}
 their edges not sharply defined
 & set above with blackish shading
 which reach above the lines, brown
 less oblique & almost meet on dorsal
 line 7 mm ^{on 12} ^{to} brown which is
 black, spiracle & ^{8 mm} ^{sharp} sub-sty
 white broad line, same as spir
 lateral line and confluent with
 them, slightly oblique on each seg
 as to 4, faint on 12, joined to an
 5th oblique line on 12 which only

goes above spiracle. Spiracle on 2
 yellowish, black ringed & black
 centered; the rest black, a dull
 bluish shade outside it followed
 by a black shade. 7 set marked
 with black except anal, the plate
 bordered with yellowish and shaded
 with black centrally. Venter as rest
 3 both with black shading.
 Purple with bundle (killed)

Dark (elephant) June 25 1997 3♀ 1♂ all juv
Aphod triguttata - 16 - 94

239 (cf 210) $\frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2}$

Limacodes on rock (date), Cooper's island Aug
24, 1890. Hd green, snout parts dark brown,
eyes black, antennae white. Body ellipti-
cal, sides nearly vertical, dorsum flat
rounding over at extremities, covered
with numerous little clear elevations
like raindrops of water. Color pale
green, above each side ridge a pale
yellow line edged above with dark
green, the line approaches each other
closely at the extremities. Spindle
white, brown centrally, a subventral
white line. The feet small topped
with brown. Ventr smooth, clear
colorless translucent without legs.
Length 15 mm, width 8 mm.
Covers Aug 30 as *Limacodes*.
(See BB 468)

240 You well know
to publish

[illegible]

from minute wants. Species from

Cat (Celestus) June 25 1897 39/11 all from
Aphoda biguttata - 16 - 94

239 (cf 210) recent

Larva on rock oak, Esopus island Aug
24, 1890. Hd green, minute parts dark brown,
eyes black, antennae whitish. Body white
sl. sides nearly vertical, brown feet
rounding over at extremities, covered
with numerous little clear elevations
like minute drops of water. Color pale
green, along each side a pale
yellow line edged above with dark
green, the line approaches each other
close at the extremities. Spiracles
white, near centrally, a subventral
white line. The feet small, tipped
with brown. Venter smooth, clear
colorless translucent without legs.
Length 15 mm, width 8 mm.
Covers Aug 30 as Limacodes.

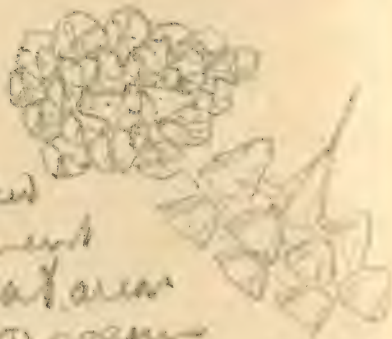
(See BB 408)

240 Too well known
to publish

Larva on rock oak & V. dentatum, Esopus
island Aug 24, 1890. Hd round, yellowish
green with many small black spots &
dashes, leaving the sutures & a transverse
line more yellow in which are a few
yellow specks. Labrum shiny gray, clypeus
white. Antennae long rose color, eyes
partly black. W 3.7 mm. Body cylindrical
velvety yellowish green with many black
spots close together leaving narrow
indistinctly yellow streaks d. & s. d.
line & other lateral lines beginning
above spiracle post, as on 10 & 11
to 12 & 13 on next, those on 12 & 13
seem to somewhat displace. There are 10
striae, there being none beginning on
12 & none on 13. 12 less short than
11 & more minute white. Spiracles brown

Large egg, Southwestern II 23
white, pale, 1.2 x .9 white
translucent, net. obscure
like cuticular round pin
Hatched Aug 1. Like biguttata
late heavy white not a
cut. line. wing out
June Aug 8 Spring. 1 d
white to, and dark
late biguttata

fine granular bottom, the others nearly covered by the large lustrous granules. Can't find setae ①. No line along ② or on 3. A faint white line along d-v. edge. S-v space very finely granular. Opisthopleural normal in line. Pigment whitish, normal in line. Apical area whitish, normal in line. S-v space red clear green. Yellow line on ① coarsely finely waved being slightly incised near ventral by dark green edge - dorsal edge straight. Lateral approach at ends, 5 mm apart on 3, near, touch on 13.



July 31 getting whiter. Ant end green, rest white green above, showing the white dot. ① have small red center. Face nearly white, narrowly green edged above & by a row of spots below. Lateral row of white dot, the largest (4) with large green center. Granules granular along ①. By-lumen. Calc. Tail slightly notched.

I	1.5	8-1.2	single-lined app. coarsely granular
II	1.5-2	1.2-1.7	water granular, frosted.
III	2	1.7-2.8	whitish green, clear on 3
IV	3-4.2	2.4-3.5	yellow, dark green edged
V	4.2-7	3.5-5.0	above, less distinct below
VI	6.5-10	5-7	① fine at dist end, on other lines. Sep. space whitish, app.
VII	9.3-15	7-10	contrasting = 408-229 (1000x)

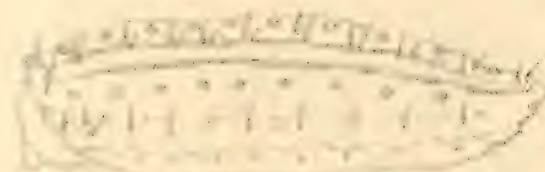
Cold in white oak Bellport 2 I	July 9 1896
July 9 Aug 22	col. Buckhorn slope, but no tail.
" 10	2.5 caty blunt, squarish, highest 5-6.
" 11	2.4 dist. Pale green, a whitish line along ①
" 12	2.4 water.
" 13	3.2 " a little wavy. ① ② corial, clear
" 14	3.5 caty ① with 2 black setae, ② with 1
" 15	3.5 dist. with with small short colored
" 16	3.5 dist. 2 setae, all with blunt tips.
" 17	3.8 caty skin with sparse watery granules
" 18	4.1 " long setae separated space indicated
" 19	4.6 " 3.64 with ① ②, 5-12 ① ②, 13 ①
" 20	4.6 " the lower on 13 long 1 with more
" 21	4.8 dist. setae than the other, large black
" 22	4.8 " setae with sharp tipped, small and
" 23	4.8 caty blunt. Granules in skin separated
" 24	5.5 " bases of 2 setae. S. space from a
" 25	6.2 " dark green band to eye.
" 26	6.5 " dist. thickly covered with granules
" 27	6.3 dist. vitreous as before. S. separated
" 28	" " spaces faint whitish dot. S. d. line
" 29	7 caty ① ② more distinct, more stretched. ③ ④
" 30	7.6 dist. having. Hd 4 1/2 white, eye with whitish
" 31	8.7 " makes a white shiny track like
Aug 1	9.5 " very blackish "y-in-mo"
" 24	" to 3rd shed Aug 16. Elliptical with square
Aug 5	10.3 caty tail. 2nd shed, but cream, s-v
" 6	11.5 " short. S. d. edge slight, lateral
" 7	11.3 "

marked. 5d tubercles absent, setae among
from the ridge, 2 dark stiff ones with and
2^d setae. On ① still low rounded tubercle
with some 2^d setae. Skin densely watery
granular, slightly conic. Green, a yellow
line along ① 3-13, not joining at either end.
A distinct & coarse fainter lateral one of
whitish dots, interseg. Otherwise green, [no
line on ② or ant. edge of 3 or 5x.] Hd. 5 pale
eye black mouth brown. with dark center
fig. 10 as it appears in nature. A darker green shade
above and below ①. Skin in last 2-4 granular.

~~July 22~~ Ridges even, not tubercular.

Skin densely closely watery granular, the
granules large, conic, esp large along ②
but not setiform. Spines of ① ② black,
from the ridge. Dorsal interseg. and seg.
small below seg. large lat interseg.
upper seg. & lower interseg. white dots
the 2 largest ① & ② dark centered, all
smoother than skin, granules lacking
but up for small spine, not smooth, much
not sharp edged, obscure. Body elliptical
tail quadrate, ^{marked} dorsum & upper 1/2 lat. 8x
unmarked, below 1/2 of green, a broad yellow

line of shell on dorsal face with 3 of these color. Whitish
elliptical flat, 1.1 x .6, shell white. Pits globose an-
gular linear as usual.
line ① 3-13 edged dark above. No other
markings. and below



Skin at ②

Skin in

d. sp. Looks much smoother
than before.

July 22 decidedly whitish green

5d line whitish yellow, broad rigid
Shed July 28 like next, no setae, granular
no line on 3, ① dark edged both sides.

Got one July 28
33x by side

Another Hd 1.3 & girth large black mouth brown
antennae long. Smooth, no setae perceptible next
July 5 7.5 making the head except the 2 flat ones of
③ which look large. Densely watery
granular a broad yellow line ①
edged green on both sides. Body
whitish green, darker above 3-4
Skin granules large, coarse, clear as
fig. above but less sharp, pointed
and closer along ②. Tail quadrate
slightly notched. All the depressed
spaces (1-6) indicated by yellowish
dots, the depression slight, small,
with a black edge and

yellowish centrally. The feet yellow
with a longitudinal rose color line
abd tapered with yellow & rose color,
the claspers long, faintly pinkish
venter immaculate a little whitish
[another Hd 3.5 same but fainter] ^(dead)

Com. Aug 27 a thin netting of brown silk
Cupa of unusual shape, abd. tapering
sides creased. body coarsely & densely
punctured, smooth in sutures
Cremaster a long, slightly curved
its end hooked in with of brown.
color ^{dark} blackish brown. L 18 mm

Swags Feb 27, 1891, Cat no 5281

Panopoda rufimanus?

Calc 1.34 1.65 2.03 ratio .81
(.88) (1.1) 3 4 5

$$241 = 118 = 63$$

Little *Paragrypus* on rock rock. Esophagus black
Hd 3.5 Hd black shiny, denticles at
aperture, ventral parts pale. 18.3 mm Body
nearly black, a little whitish with
whitish at the sides, 10 warts per seg.

the 2-d on 2 large & bearing a few
plumed black hairs; from warts 11-12
on 5 & 12 a square black tuft of plumed
hairs, the other warts bear scabrid pale
whitish hairs, from 11-12 on 6-8 gray
and tufted & plumed. On 10-11 a
dense whitish reticulate tubercle.

Let warts of 2 & first part to warts 1
S-V & venter scabrid whitish.

^(Shed 1.65)
S 3 Hd 1.65 [as before but the pencil
from 2 more distinct & a lot of thick
feathered
gray hair from dorsal warts
of 3-4, 6-8 besides four thin hairs

subventrally. Venter & 5-10 pale
No 5-17 As before. Squares to 17 placed
black hair on 5 & 12. Genitalia on 2
Long feathered hair nearly entire back
but hairs white & retractile want
exposed. Lateral hairs long gray
irregularly feathered. Body colored as above
black, on ^{lappets} & mandibles white. W.L.
2.5-3.0 testaceous. Did not eat by hypermetamorphosis
Food when at rest sitting by its side.
(Another hypermetamorphosed by 1st; 1st 1st; 2nd 1st)

242

body is uniformly pale whitish with
a pinkish tinge, the head whitish
2-4 and subventrally is purplish
green, elsewhere a pale red and
a ill minutely feathered. The
spiracles are white in a center and
black edge. Small white hairy
setae on head and bases of legs.

Length 25 mm, width 12; width
head about 2.5 mm. The larva
possesses a striking power like with
which probably induces in center
sharp bristly black hair which
is near the bases of the bristles.
Larva Feb 20, 1891 ♂

Lugoa crispata

Mar 15 '94

243

Lugoa "*americana*" as described by
31, 1890, Hd retracted with ^{2 & 3} partly
under 3, Hd green, jaw brown eyes
black, antennae green. Body flattened
rather elongate, the sides nearly 1 but
not high the back flat, 2 nearly
uniform with dark markings towards
head & rather more towards posterior
brown at 3 (2nd) at 7 (3rd) and at 12 (2nd)
Lateral region has 2 rows of singular
elliptical depressions, between which
the body is somewhat ridged, with
a row of rounded elevations (43)
on 13, 4, 6-12 just below spiracles (almost on of
minute spines). Color green covered
with minute transparent granulation.
The dorsal region is much smoother
the anterior places being only represented
by small rounded whitish spots.

Aphididae. Small, round, yellowish
 green hair on 12
 On each side of the 1st 5-12 rows (2)
 of tubercles, 1 per row from
 3-13, those on 3, 4, 5 & 12 larger than
 the others & colored bright red, the
 one on 4 just tipped with red. Small
 region yellow, containing a dorsal
 band & band colored dark brown
 & tubercles outline, it seems some
 the yellow on 3-5 forms indentation
 at each pair of tubercles; on 6 & 7
 it is much enlarged; on 10
 it is almost to a line; enlarged
 again at 11, contracted at 11,
 it ends in a rounded enlargement
 on 12. It is bordered by a pale
 dorsal line. L. 11 mm; W. 4 mm
 Ab. 1st antennae pointed, 2nd
 3rd with 1st. abd. about, the
 body dark brown & still

same in younger stages but the dorsal
 band is divided into separate
 patches & is rather dim in color. The
 under had part of patch of faint, but it

RED Spin. Warden

On Nysa (sage) at Fort Lee found these
 A Ordinary. No red except horns 3-5, 8, 11-12 ①
 and on 3 ②. Sides colorless & green & broken
 yellow line along ②
 B Horns red 3-13 ① and 3 ②. Some yellow
 shading in lat. space & line along ② weak,
 continuous. Sd band dark yellow.
 C Horns red as above & a reddish stripe
 connecting these bases 3-12, not reaching
 the dorsal part of the yellow. Purple
 marks with a common edge and a
 blurred irregular brown band in the
 dorsal space shading into the sd
 red ventrally. Below it yellowish or
 whitish shading. Line along ② broken
 I am convinced of d. purple band
 very conspicuous in the other species; this
 has much less yellow. Both with caltrop

Spindle smooth, round yellowish
a few hairs on 2

on only side of 1st to 5th - S-d. 2020 (2)
of spinous tubercles, 1 per seg from
3-13, those on 3, 4, 5 & 12 larger than
the others & colored bright red, those
on 6 just tipped with red. Dorsal
region yellow, containing a broad
white band colored with obscure
circular outline. 23 segments cover
the yellow on 3-4, dorsal indented
at each pair of tubercles; on 6 & 27
it is much enlarged; on 10
it is almost a line; enlarged
again at 1000, contracted at 11,
it ends in a small enlargement
on 12. It is covered by a pale
opaque film. L 11 mm; W 4 mm
the feet very small, pointed, green
tipped with brown. Abd. about 1/2
the body, below darkish & shining.

Dark in younger stages but the dorsal
white band is distinct in the extreme
stages & is rather brilliant color. I
another had part of patch of faint, but it could
be made out. Red on horns normal

Adoneta spinulosa. Ings 1/30/91
5th year

(889) (acc to Hy. Edw.)

245A Like Hy Edw. spec. Kynoch's
Sept 9. Differs from 243 in having the
d band interrupted at 8, 8 being
wholly yellow smooth and the
spinous S-d tubercles all red, with
color border the patch & the S-d ridge
below. On 10th seg. - but no dorsal
& a whitish (pale) at seg. lines. The
horns on 13 as long as those on 12.

RED Spinuloides

On Nypsa (singer) at Fort Lee found these

A Ordinary. No red except horns 3-5, 8, 11-12 ① and on 3 ②. Sides colorless & green & broken yellow line along ②

B Horns all red 3-13 ① and 3 ②, some yellow shading in lat. space & line along ② nearly continuous. Sd band dark yellow.

C Horns red as above & a brownish stripe connecting these horns 3-12, not reaching the dorsal part of the yellow. Purple marks with a crimson edge and a blurred irregular crimson band in the lateral space shading into the red anteriorly. Below it yellowish or whitish shading. Line along ② broken. In one constriction of d. purple band very conspicuous in the other slight; the head much less yellow. Both with caltrop.

lengths 10.5, 10.4 mm

H. G. DYAR

YOSEMITE, CAL.

copied
10/5/90

Little Heterocampa on Sycamore Sept 24, '90
Ad imago. Black, shiny, a large white
patch in front covering the spl (labial
4 mm Body enlarged dorsally at 2
approach like a shield, a smooth
irregular process 2 mm from the center
back by a short fine hair (about 1 mm)
high feet are prolonged into a
smooth divergent process, a
small enlarged at the end, minutely
serrated below. Body cylindrical, smooth
shiny, pale green with 4 lateral red
lines the uppermost faint
above 7, all around 8 11 & 12 and
small hairy forward to 10 above by
brown shield, above a small
white black. Tails 1 mm green
irregular brown, the swollen ends

Began to appear for 'coon bet. leaves Oct 6.

Shops Jan 20, 1891 7
H. G. DYAR

YOSEMITE, CAL.

red brown. Larva on 7 & 10 black around
venter pale whitish, thorax brown.
Larva paracymbria from below dorsal
width 5-2.5 mm. Highly bilobed, head
front, pale whitish, more distinct, white
on spl & sides of a broad diffuse
red-brown band runs to vertex & sides
lobe. Eyes black. 1 mm. 1st. 2nd. 3rd. 4th.
2. 3rd. 4th. 5th. 6th. 7th. 8th. 9th. 10th.
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 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1018. 1019. 1020. 1021. 1022. 1023. 1024. 1025. 1026. 1027. 1028. 1029. 1030. 1031. 1032. 1033. 1034. 1035. 1036. 1037. 1038. 1039. 1040. 1041. 1042. 1043. 1044. 1045. 1046. 1047. 1048. 1049. 1050. 1051. 1052. 1053. 1054. 1055. 1056. 1057. 1058. 1059. 1060. 1061. 1062. 1063. 1064. 1065. 1066. 1067. 1068. 1069. 1070. 1071. 1072. 1073. 1074. 1075. 1076. 1077. 1078. 1079. 1080. 1081. 1082. 1083. 1084. 1085. 1086. 1087. 1088. 1089. 1090. 1091. 1092. 1093. 1094. 1095. 1096. 1097. 1098. 1099. 1100. 1101. 1102. 1103. 1104. 1105. 1106. 1107. 1108. 1109. 1110. 1111. 1112. 1113. 1114. 1115. 1116. 1117. 1118. 1119. 1120. 1121. 1122. 1123. 1124. 1125. 1126. 1127. 1128. 1129. 1130. 1131. 1132. 1133. 1134. 1135. 1136. 1137. 1138. 1139. 1140. 1141. 1142. 1143. 1144. 1145. 1146. 1147. 1148. 1149. 1150. 1151. 1152. 1153. 1154. 1155. 1156. 1157. 1158. 1159. 1160. 1161. 1162. 1163. 1164. 1165. 1166. 1167. 1168. 1169. 1170. 1171. 1172. 1173. 1174. 1175. 1176. 1177. 1178. 1179. 1180. 1181. 1182. 1183. 1184. 1185. 1186. 1187. 1188. 1189. 1190. 1191. 1192. 1193. 1194. 1195. 1196. 1197. 1198. 1199. 1200. 1201. 1202. 1203. 1204. 1205. 1206. 1207. 1208. 1209. 1210. 1211. 1212. 1213. 1214. 1215. 1216. 1217. 1218. 1219. 1220. 1221. 1222. 1223. 1224. 1225. 1226. 1227. 1228. 1229. 1230. 1231. 1232. 1233. 1234. 1235. 1236. 1237. 1238. 1239. 1240. 1241. 1242. 1243. 1244. 1245. 1246. 1247. 1248. 1249. 1250. 1251. 1252. 1253. 1254. 1255. 1256. 1257. 1258. 1259. 1260. 1261. 1262. 1263. 1264. 1265. 1266. 1267. 1268. 1269. 1270. 1271. 1272. 1273. 1274. 1275. 1276. 1277. 1278. 1279. 1280. 1281. 1282. 1283. 1284. 1285. 1286. 1287. 1288. 1289. 1290. 1291. 1292. 1293. 1294. 1295. 1296. 1297. 1298. 1299. 1300. 1301. 1302. 1303. 1304. 1305. 1306. 1307. 1308. 1309. 1310. 1311. 1312. 1313. 1314. 1315. 1316. 1317. 1318. 1319. 1320. 1321. 1322. 1323. 1324. 1325. 1326. 1327. 1328. 1329. 1330. 1331. 1332. 1333. 1334. 1335. 1336. 1337. 1338. 1339. 1340. 1341. 1342. 1343. 1344. 1345. 1346. 1347. 1348. 1349. 1350. 1351. 1352. 1353. 1354. 1355. 1356. 1357. 1358. 1359. 1360. 1361. 1362. 1363. 1364. 1365. 1366. 1367. 1368. 1369. 1370. 1371. 1372. 1373. 1374. 1375. 1376. 1377. 1378. 1379. 1380. 1381. 1382. 1383. 1384. 1385. 1386. 1387. 1388. 1389. 1390. 1391. 1392. 1393. 1394. 1395. 1396. 1397. 1398. 1399. 1400. 1401. 1402. 1403. 1404. 1405. 1406. 1407. 1408. 1409. 1410. 1411. 1412. 1413. 1414. 1415. 1416. 1417. 1418. 1419. 1420. 1421. 1422. 1423. 1424. 1425. 1426. 1427. 1428. 1429. 1430. 1431. 1432. 1433. 1434. 1435. 1436. 1437. 1438. 1439. 1440. 1441. 1442. 1443. 1444. 1445. 1446. 1447. 1448. 1449. 1450. 1451. 1452. 1453. 1454. 1455. 1456. 1457. 1458. 1459. 1460. 1461. 1462. 1463. 1464. 1465. 1466. 1467. 1468. 1469. 1470. 1471. 1472. 1473. 1474. 1475. 1476. 1477. 1478. 1479. 1480. 1481. 1482. 1483. 1484. 1485. 1486. 1487. 1488. 1489. 1490. 1491. 1492. 1493. 1494. 1495. 1496. 1497. 1498. 1499. 1500. 1501. 1502. 1503. 1504. 1505. 1506. 1507. 1508. 1509. 1510. 1511. 1512. 1513. 1514. 1515. 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1682. 1683. 1684. 1685. 1686. 1687. 1688. 1689. 1690. 1691. 1692. 1693. 1694. 1695. 1696. 1697. 1698. 1699. 1700. 1701. 1702. 1703. 1704. 1705. 1706. 1707. 1708. 1709. 1710. 1711. 1712. 1713. 1714. 1715. 1716. 1717. 1718. 1719. 1720. 1721. 1722. 1723. 1724. 1725. 1726. 1727. 1728. 1729. 1730. 1731. 1732. 1733. 1734. 1735. 1736. 1737. 1738. 1739. 1740. 1741. 1742. 1743. 1744. 1745. 1746. 1747. 1748. 1749. 1750. 1751. 1752. 1753. 1754. 1755. 1756. 1757. 1758. 1759. 1760. 1761. 1762. 1763. 1764. 1765. 1766. 1767. 1768. 1769. 1770. 1771. 1772. 1773. 1774. 1775. 1776. 1777. 1778. 1779. 1780. 1781. 1782. 1783. 1784. 1785. 1786. 1787. 1788. 1789. 1790. 1791. 1792. 1793. 1794. 1795. 1796. 1797. 1798. 1799. 1800. 1801. 1802. 1803. 1804. 1805. 1806. 1807. 1808. 1809. 1810. 1811. 1812. 1813. 1814. 1815. 1816. 1817. 1818. 1819. 1820. 1821. 1822. 1823. 1824. 1825. 1826. 1827. 1828. 1829. 1830. 1831. 1832. 1833. 1834. 1835. 1836. 1837. 1838. 1839. 1840. 1841. 1842. 1843. 1844. 1845. 1846. 1847. 1848. 1849. 1850. 1851. 1852. 1853. 1854. 1855. 1856. 1857. 1858. 1859. 1860. 1861. 1862. 1863. 1864. 1865. 1866. 1867. 1868. 1869. 1870. 1871. 1872. 1873. 1874. 1875. 1876. 1877. 1878. 1879. 1880. 1881. 1882. 1883. 1884. 1885. 1886. 1887. 1888. 1889. 1890. 1891. 1892. 1893. 1894. 1895. 1896. 1897. 1898. 1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. 1909. 1910. 1911. 1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922. 1923. 1924. 1925. 1926. 1927. 1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935. 1936. 1937. 1938. 1939. 1940. 1941. 1942. 1943. 1944. 1945. 1946. 1947. 1948. 1949. 1950. 1951. 1952. 1953. 1954. 1955. 1956. 1957. 1958. 1959. 1960. 1961. 1962. 1963. 1964. 1965. 1966. 1967. 1968. 1969. 1970. 1971. 1972. 1973. 1974. 1975. 1976. 1977. 1978. 1979. 1980. 1981. 1982. 1983. 1984. 1985. 1986. 1987. 1988. 1989. 1990. 1991. 1992. 1993. 1994. 1995. 1996. 1997. 1998. 1999. 2000. 2001. 2002. 2003. 2004. 2005. 2006. 2007. 2008. 2009. 2010. 2011. 2012. 2013. 2014. 2015. 2016. 2017. 2018. 2019. 2020. 2021. 2022. 2023. 2024. 2025. 2026. 2027. 2028. 2029. 2030. 2031. 2032. 2033. 2034. 2035. 2036. 2037. 2038. 2039. 2040. 2041. 2042. 2043. 2044. 2045. 2046. 2047. 2048. 2049. 2050. 2051. 2052. 2053. 2054. 2055. 2056. 2057. 2058. 2059. 2060. 2061. 2062. 2063. 2064. 2065. 2066. 2067. 2068. 2069. 2070. 2071. 2072. 2073. 2074. 2075. 2076. 2077. 2078. 2079. 2080. 2081. 2082. 2083. 2084. 2085. 2086. 2087. 2088. 2089. 2090. 2091. 2092. 2093. 2094. 2095. 2096. 2097. 2098. 2099. 2100. 2101. 2102. 2103. 2104. 2105. 2106. 2107. 2108. 2109. 2110. 2111. 2112. 2113. 2114. 2115. 2116. 2117. 2118. 2119. 2120. 2121. 2122. 2123. 2124. 2125. 2126. 2127. 2128. 2129. 2130. 2131. 2132. 2133. 2134. 2135. 213

H. G. DYAS

YOSEMITE, CAL.

As the stem assumes all the red
brown faster than except on shield;
the brown dorsal shade becomes
a band, continued at seg sutures
and enlarged on joints 7 & 11 Y
Hull 3rd 9th slightly bilobed, flat
a good, narrow white line to vertex
rounded; pale whitish green, a broad
diffuse brown band on each side from
ocelli to vertex; ocelli black, W. 35 mm
Antennae short black tubular, one
on each ant. ^{edge} ~~sides~~ of shields. ^{Stem}
^{long} 2mm, faintly reddish with a ^{few}
black elevation dots especially below
outside, the tips a little swollen,
crimson. Body whitish with 3 fine
faint white lines each side of stem
reddish brown dorsal band, which
is very distinct, covering carapace

H. G. DYAR

Yosemite, Cal

& anal. ^{Y08E IITP, CAL} ^{not attracted} as each
 suture & widening on joints. All more
 than on the other segments. Feet & vent
 concolorous with body. As stage advances
 the body becomes green, the head in head &
 d-band edged on with sides with white
 (17 June 3) (some reddish) ^{note}
 the 2 narrow undulate s-d line, yellow
 most 3 of 4 Hd not, distinct in black
 about as high as wide & narrowing toward
 the vertex: face in front. To 2.2 mm Hd
 unchanged as before the inner white line
 of the brown band (were broad, covering
 nearly all of the front of head except the
 clypeus & central suture), antennae &
 maxillae black, mandible
 white part whitish, terminal lobes
 directed to more points ~~as before~~
~~as before~~ as before. Tail as before, whole
 shaded with red brown at tip - brown and
^{minutely pilose}
 ends, the 2 elevated dots brown.

Do not to when in 'coon bet. leaves. Oct 6.

from intense brown, brown broadly centrally
on 7 & on 8. **H. O. DYER**
Yosemite, Cal.
the dorsal band of nearly uniform
width, retracted as a suture, hardly
distinctly wider on 7, considerably
widened on 11, expanded on 2 to
cover sides & base of dorsal plate. Length of body 5 1/2 x 14 1/2 mm
As stage advances the dorsal becomes faint,
mottled with its white under which is
yellow at the suture. There is a thin
yellowish line & the sides have
a few black speckles at the extremity.
Spiracles white, surrounded by yellow.

5. Hd slightly lobed, rounded,
flat in front; color green, the dorsal with
brown bands from before on 11 to vertex
of each eye. Slightly mottled dorsal
band with yellow & before faintly with
white. A white line streak each side

of the body faint to solid greenish white, as from rays
surrounds spiracles. **H. O. DYER**
Yosemite, Cal.
the dorsal band of nearly uniform
width, retracted as a suture, hardly
distinctly wider on 7, considerably
widened on 11, expanded on 2 to
cover sides & base of dorsal plate. Length of body 5 1/2 x 14 1/2 mm
As stage advances the dorsal becomes faint,
mottled with its white under which is
yellow at the suture. There is a thin
yellowish line & the sides have
a few black speckles at the extremity.
Spiracles white, surrounded by yellow.

it being close to center of each
ring of its rays in the dorsal brown
band. Scales & spiracles brownish
black. Head as before, the dorsal
relatively shorter (2 mm); color pale
absent. Color green, a broad, red-brown
dorsal band mottled & at about on
a white ground, extending to the dis-
tinct spots on 2 representing the "lens"
and on 11 containing a V-shaped brown
line which is repeated more faintly
on 12. The spiracles are white,
brown irregularly & speckled with brown
irregularly, with a few minute hairs.
On the 2nd. Suture the dorsal is slightly
retracted & is broadly yellow; a narrow
yellow spot & a cup-shaped line, the latter
hollow, behind a step line on 3 & 4.
Spiracles white, pale centrally & surrounded
by a whitish shade. A white band on
5-8 fold 11-13, feet concave, a number
of dark purple scales over the sides.
Scales 2-4 & 11-12. As stage adv. the head
finely reticulated with brown spots & the
white marks become faint; the body clothed
in a band heavily spotted with brown, the
spots small & as dark that some become con-
spicuous. They tend to segregate in longitudinal
lines between the lateral yellow lines. A
white line on cervical shield & anal plate. 1st
large & extend beyond the spiracles. anal plate
large & extend beyond the spiracles. anal plate

YOSEMITE, CAL.

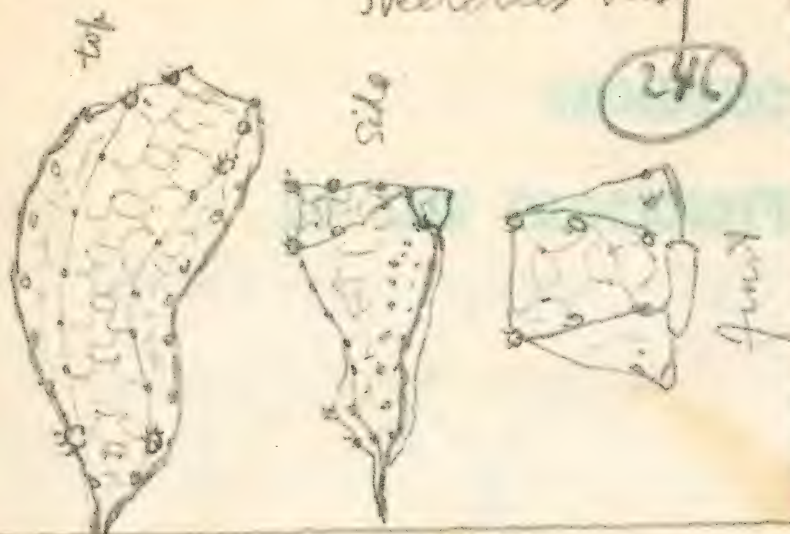
12/13/90 3/16/94

3/16/94

Skin fine pale spinulose not granular.

Sketches only

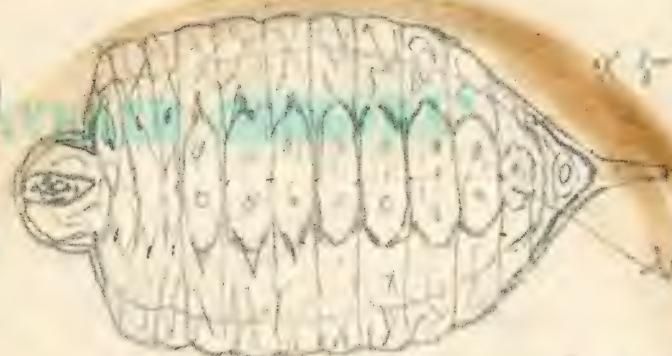
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Parasa chloris (under side)

Sept 18 & 10
" 19 & 9.5
wormy
coconuts!

ON
wild cherry
chestnut
hickory



der dinsten
Jahre 6-12

① 13 germ. together; it is at this stage slightly bifid & appears as the double enlarged and more larger in proportion than in mature.

than in mature.
 Another 5.6 to 6.0. Another 4.7 (to 6.0) tail tip
 swollen. Isolated. Home erect, well spread to
 length 34.5 11 12 13 (-tail) about alike so
 long as width of d
 Sept 5 4.7 to 6.0. Sept 10 7.2 to 6.0
 male Sept 6 5.2 e. " 11 6.8 by side space on 11
 Sept 7 6.2 " " 12 9.5 eating male Sept 11 tail still
 " 8 6.8 " " 13 9.8 " shifted tip of. Span 4
 " 9 7.5 " " 15 11.0 " fine spring balance 4
 " " " " 17 10.4 " " " small 10 over

Here are a few more

H. G. DYER

12/13/90 3/16/94

YOSEMITE, CAL.

to 100 ft. in 10 ft. leaves 100 ft. to 100 ft.

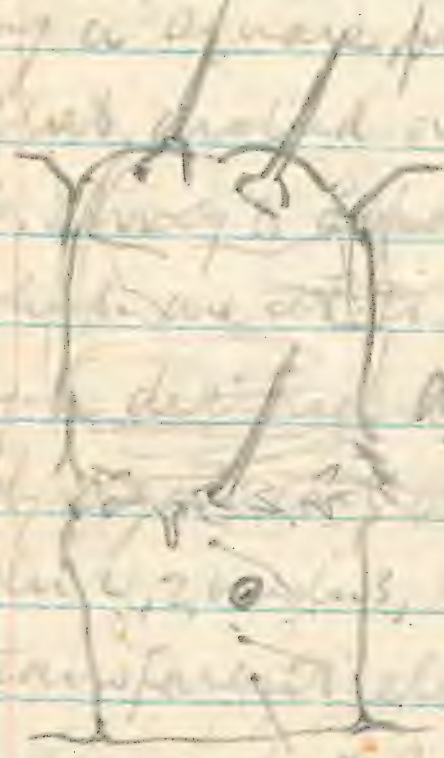
Parasitic (lately) on wild cherry
 1st 4, 890 (lately) from along a creek
 ovate, dorsal region flat, dry but dry
 & diminishing to extremities. S-d ridge
 angulated, heavy on each side, a large
 sand wart inside with spine.
 There are 345 11 & 12 large, the rest
 much smaller. A distinct row
 above the spiracles, all small. 43
 from a pointed tail. 1st under
 2, 2, 2 as a cell. There is a thin
 row of blackish amber spots in dorsal
 region & elliptical depression in the
 side but the skin is nearly uniform
 smooth & soft. Color greenish brown
 lighter, some reddish tinted with
 a number of indistinct light brown
 lines. Below color, build & a
 salmon colored band. As stage
 faded with dark orange

3-16-94

little notes

247 = "Bl. dip."!

On a cherry 5-4-90 (lately) on?
 VII. Elliptical, contracted but 12 & 13
 13 having a square projection. Dorsal
 region flat, dorsal over, a d ridge is
 slight, heavy & a distinct row from
 back which are 11 & 12. Laterally
 forming a deep furrow. And below which
 the both sides & 2 to venters.
 1st under 2, 2, 2, 3, 1st by heavily covered
 with transparent elevation which
 appears somewhat pressed down on
 the dorsal region. Color pale yellowish
 green, a yellow line on each side
 & sub-lateral ridge, all meeting on
 18 & the S-d ones on 3 by a connecting
 line. A dorsal & large & small (con-
 lateral) row of dark green spots sur-
 rounded by yellow beads a row



Parasa chloris (under side)

Sept 18 e 10
" 19 2 9.5
wormy
cocoon!

ON

Wild cherry
chestnut
hickory



to distinct
side lines 6-12
open patches on the

Body 3.6 mm. - ant. evidently made of tubercles
① 13 green tubercles; it is at this stage
slightly bifid & spinose at the double
enlarged end. Horns large in proportion
than in mature.

Ant. 5.6 to 7.2. Ant. 8.7 (to 10) tail bifid
protr. Serrated. Horns erect, well spread
length 3.4 5 11 12 13 (= tail) about as long as
width of d

| | | |
|--------|-----|-----|
| Sept 5 | 4.7 | 6.7 |
| Sept 6 | 5.2 | e |
| Sept 7 | 6.2 | " |
| " 8 | 6.8 | " |
| " 9 | 7.5 | " |

| | | |
|---------|------|---------|
| Sept 10 | 7.2 | 8.7 |
| " 11 | 6.8 | by hole |
| " 12 | 8.5 | cutting |
| " 13 | 9.8 | " |
| " 15 | 11.0 | " |
| " 17 | 10.4 | " |

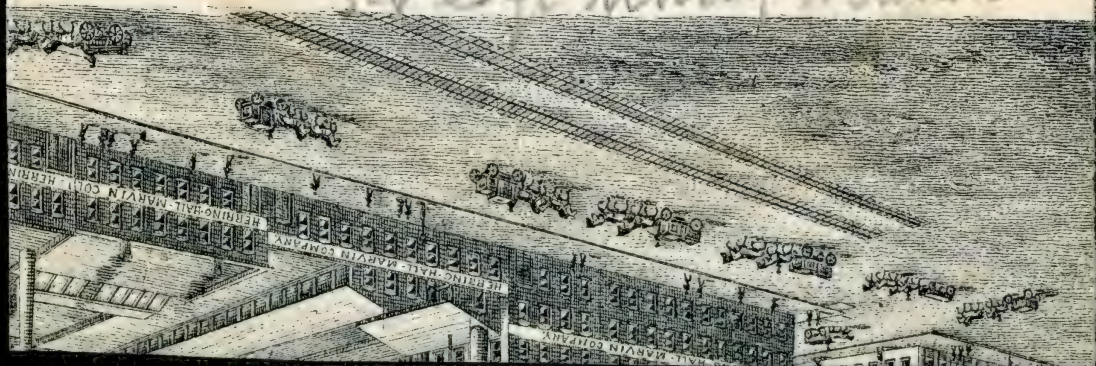
long as width of d
space on 11
Molt Sept 11 tail still
slightly bifid. Horns
fine sharp, almost
filiform. Small - 10 over

Length
 Sept 6 3.5
 7 (to dist)
 Sept 8 dist
 acc. alcohol
 Hd 5+

Another in Myrica Glendale 21
 Horns 345 11 12 13 quite long
 distinct, .67, .910 very small
 & distinct longer, 13 consolidated
 3-4 moderate 6-12 small
 as 2 prind. Shape more slender
 less tapering part. through the
 and region is distinct, highest
 to tail 2 aspects nearly
 elliptical. blackish, long
 hornspike a pair 2nd line
 a pale d. space 7-10 and from
 horn on 5 11 12
 sex edge broadly whitish

Microgaster

185 W Pearl St



Skin fine pale spinulose not granular.

Sketches only



Spineless on 5 high up.

① 3-12 spine good but not well
plugged up on any horns and
horns 3-5, 11-12 rather large
11 largest 6-10 tiny but many
spines. ② 3-4, 6-12, no spine
on 13 but a long hair. ③ fine
setae. 2 not concealed, its
spinacle even exposed & a lat.
retraction of 3. 50% spaces above
one $9\frac{1}{2}$ mm (2 headed) ^{and glandular} not present.

" 11 a hooking/ other smaller.

tan color to reddish brown
or pinkish brown, spines
dark but pale in ① 11. The
ground color is greenish and
the unreddened feathered glaucous
line are common.

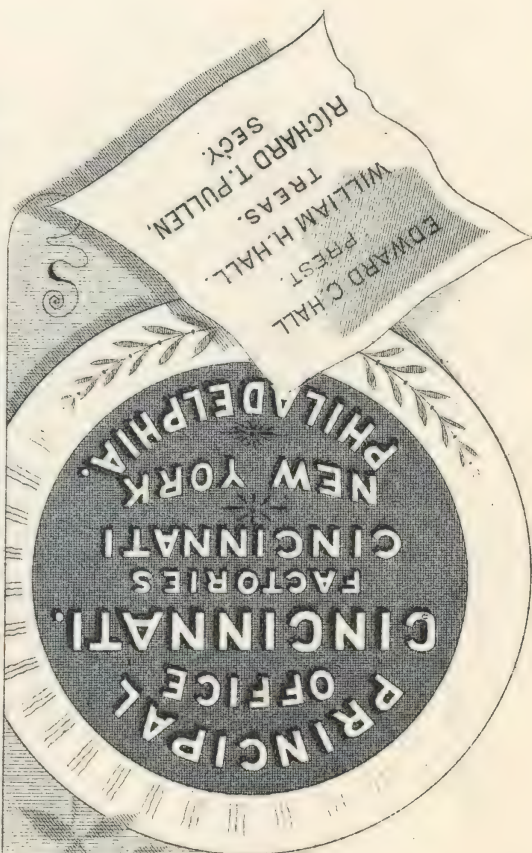
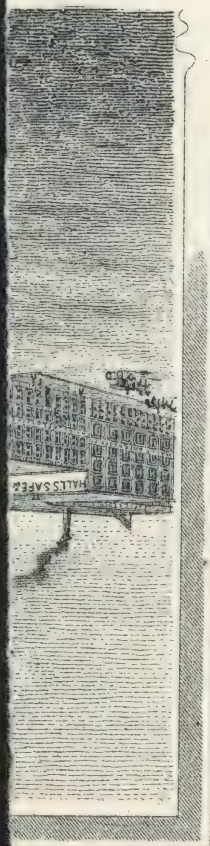
Gentlemen:-

HERRING

TO THE STOCKHOLD

Van Cortlandt Park

Aug 31 1895



HERRING

A wormy one 9.5- (not sure?) Whip Road
N.W. Aug. 22. '95

of 2 rows of small spots on
5d ridge, along which the green
predominates in round somewhat
elevated spots. Below sublateral
ridge is a row of green spots sur-
rounded by white & rusty pink
above the white band bordering
the colorless venter. (Full of flies)

A fine but smaller, darker green
with a double row of short black
spines along each sub & lateral ridge
on Lindens, Lindens. Insects = 247
the hair is present but pale & very
minute, scarcely distinguishable
with the glass & only in certain light

Images Aug 17 1891 8

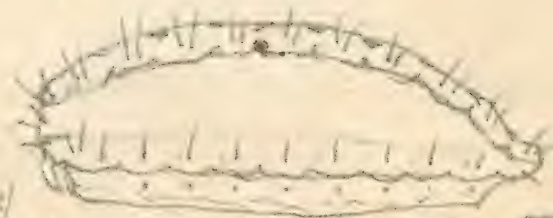
Linnaea fasciola

On white brick, Keene Valley, N.Y. Aug 21
1894 young (See fig on previous page) 12 11 close
to eye, spine, in simple a fine hair on lower
side mid-se. 17 8 1/2 close fine hairs

IV? & another fine in court land late [Fasciola]

Green, ridge faintly yellow. 2
rows of white rings (d def)
ad dorsal shown. Several stiff
2nd setae on both ridges besides
the layer black tipped 10 ones
skin near smooth, a few
granules but also a number of
long spines (2nd) like a ridge
② dorsal spines, almost horned.
spines a line. 3 rows on 3 & 4
(an IV 5.4 just shed by hide) Sept 2
Another little one just shed 2.9 mm
on bay leaf Sept 3. Stage IV?

| | IV | IV | V | IV | V | VI | VII |
|---------|-----|-----------|---------|---------|---------|-------|-------|
| Sept 4 | 2.9 | 4.3 sh | 5.3 e | 2.9-3.4 | 4.0-5.0 | 5.5-7 | 7.0- |
| " 5 | 3.4 | 4.4 | 5.2 1/2 | | 4.2-4.4 | 5.0- | -11.5 |
| " 6 | 3.4 | 5.0 e | 5.2 " | | 4.5-5.2 | 5.2 | -13 |
| " 7 | 3.2 | (4 min) | | | | -6.7 | -7.7 |
| " 8 | 3.5 | | | | | | |
| " 9 | 3.4 | shed | | | | | |
| " 11 | 4.0 | eating V | | | | | |
| " 12 | 4.5 | " | | | | | |
| " 13 | 4.7 | " | | | | | |
| " 14 | 4.8 | " | | | | | |
| " 15 | 5.0 | on bark | | | | | |
| " 18 | 5.5 | eating VI | spiny | | | | |
| " 19 | 6.0 | " | | | | | |
| " 20 | 6.5 | " | | | | | |
| " 21 | 7.0 | " | | | | | |
| " 22 | 7.1 | " | | | | | |
| " 23 | 7.0 | shed | | | | | |
| Sept 21 | 8.6 | smooth, | | | | | |



(weak)
Length 7.7 (end of stage) VI
to show before (pinning) ① two 2-13
② two 3-4, ③ one 3-13.

A wormy one 9.5- (not used?) Whip Road
 N.H. Aug. 22. 75

1st. 2nd. 3rd. 4th. 5th. 6th. 7th. 8th. 9th. 10th. 11th. 12th. 13th. 14th. 15th. 16th. 17th. 18th. 19th. 20th. 21st. 22nd. 23rd. 24th. 25th. 26th. 27th. 28th. 29th. 30th. 31st. 32nd. 33rd. 34th. 35th. 36th. 37th. 38th. 39th. 40th. 41st. 42nd. 43rd. 44th. 45th. 46th. 47th. 48th. 49th. 50th. 51st. 52nd. 53rd. 54th. 55th. 56th. 57th. 58th. 59th. 60th. 61st. 62nd. 63rd. 64th. 65th. 66th. 67th. 68th. 69th. 70th. 71st. 72nd. 73rd. 74th. 75th. 76th. 77th. 78th. 79th. 80th. 81st. 82nd. 83rd. 84th. 85th. 86th. 87th. 88th. 89th. 90th. 91st. 92nd. 93rd. 94th. 95th. 96th. 97th. 98th. 99th. 100th. 101st. 102nd. 103rd. 104th. 105th. 106th. 107th. 108th. 109th. 110th. 111st. 112nd. 113rd. 114th. 115th. 116th. 117th. 118th. 119th. 120th. 121st. 122nd. 123rd. 124th. 125th. 126th. 127th. 128th. 129th. 130th. 131st. 132nd. 133rd. 134th. 135th. 136th. 137th. 138th. 139th. 140th. 141st. 142nd. 143rd. 144th. 145th. 146th. 147th. 148th. 149th. 150th. 151st. 152nd. 153rd. 154th. 155th. 156th. 157th. 158th. 159th. 160th. 161st. 162nd. 163rd. 164th. 165th. 166th. 167th. 168th. 169th. 170th. 171st. 172nd. 173rd. 174th. 175th. 176th. 177th. 178th. 179th. 180th. 181st. 182nd. 183rd. 184th. 185th. 186th. 187th. 188th. 189th. 190th. 191st. 192nd. 193rd. 194th. 195th. 196th. 197th. 198th. 199th. 200th. 201st. 202nd. 203rd. 204th. 205th. 206th. 207th. 208th. 209th. 210th. 211st. 212nd. 213rd. 214th. 215th. 216th. 217th. 218th. 219th. 220th. 221st. 222nd. 223rd. 224th. 225th. 226th. 227th. 228th. 229th. 230th. 231st. 232nd. 233rd. 234th. 235th. 236th. 237th. 238th. 239th. 240th. 241st. 242nd. 243rd. 244th. 245th. 246th. 247th. 248th. 249th. 250th. 251st. 252nd. 253rd. 254th. 255th. 256th. 257th. 258th. 259th. 260th. 261st. 262nd. 263rd. 264th. 265th. 266th. 267th. 268th. 269th. 270th. 271st. 272nd. 273rd. 274th. 275th. 276th. 277th. 278th. 279th. 280th. 281st. 282nd. 283rd. 284th. 285th. 286th. 287th. 288th. 289th. 290th. 291st. 292nd. 293rd. 294th. 295th. 296th. 297th. 298th. 299th. 300th. 301st. 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731st. 732nd. 733rd. 734th. 735th. 736th. 737th. 738th. 739th. 740th. 741st. 742nd. 743rd. 744th. 745th. 746th. 747th. 748th. 749th. 750th. 751st. 752nd. 753rd. 754th. 755th. 756th. 757th. 758th. 759th. 760th. 761st. 762nd. 763rd. 764th. 765th. 766th. 767th. 768th. 769th. 770th. 771st. 772nd. 773rd. 774th. 775th. 776th. 777th. 778th. 779th. 780th. 781st. 782nd. 783rd. 784th. 785th. 786th. 787th. 788th. 789th. 790th. 791st. 792nd. 793rd. 794th. 795th. 796th. 797th. 798th. 799th. 800th. 801st. 802nd. 803rd. 804th. 805th. 806th. 807th. 808th. 809th. 810th. 811st. 812nd. 813rd. 814th. 815th. 816th. 817th. 818th. 819th. 820th. 821st. 822nd. 823rd. 824th. 825th. 826th. 827th. 828th. 829th. 830th. 831st. 832nd. 833rd. 834th. 835th. 836th. 837th. 838th. 839th. 840th. 841st. 842nd. 843rd. 844th. 845th. 846th. 847th. 848th. 849th. 850th. 851st. 852nd. 853rd. 854th. 855th. 856th. 857th. 858th. 859th. 860th. 861st. 862nd. 863rd. 864th. 865th. 866th. 867th. 868th. 869th. 870th. 871st. 872nd. 873rd. 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of green dots on the sides, on
 5th ridge, along which the green
 predominates in round somewhat
 elevated spots. Below sublateral
 ridge is a row of green spots and
 rounded of white & yellowish pink
 above the white band bordering
 the colorless venter. (Fuller flies)
 4. Same but smaller, darker green
 & with a double row of short black
 spin along each sub & lateral ridge
 on Linden, Undromida. W. 247
 the hair are present but pale & very
 minute, scarcely distinguishable
 with the glass & only in certain light

Images Aug 17 1891 ♂

Limacodes fusciola

On white brick, Keene Valley, N.Y. Aug 21
 1894 young (see fig on previous page) it is a
 large spin. It is a fine hair on lower
 side ridge! It is close fine hairs

By calc. .34 .5 .8 1.3 1.8 (2.6) (3.0)
 We have .3? .5 .8 1.3 1.8 2.4

Red. sweet clover. 248
 conditions
 eggs on white clover Sept 4 90. in a group
 of about 50. Spherical-convex, base
 flat. Operculum, shiny bright yellow
 W. 7 mm Hatchd Sept 4d very pale
 testaceous, a black spot over each
 one at vertex of each lobe; mouth brown
 W. 3? mm Body, pale yellowish; c-spots
 faint, brown, semi-linear, like the
 as in *Undromida*, large, pale, ^{blackish} with
 with a spiral black line, except round
 5-12 which is very small & ^{blackish} _{only 1 now 25 on 2-4 as in *Undromida*.}
 Row (6) is not evident. L 2 mm

W. 12-13 14d very pale testaceous, also
 black markings on top of dorsum. ^{W. 4} _{W. 1.5}
 Body pale yellowish, hairs large &
 hair above black, black, long. C-spots brown
 Still with pseudopoda. As stage, also a
 white d & s d line, obsolete at extreme

IV? & Another from the Cortlands Lake Fasciola

Diary

Length

Aug 31 4.15 eating
Sept 1 4.2 4.7 "
" 2 4.4 5.1 "
" 3 4.3 (4.5) 5.3 "
" 4 " " 5.3 "

Green, ridge fairly yellowish. 2 rows of white rings (1d def) added dorsal shown. Several stiff 2^d setae on both ridges besides the larger black tipped 1st ones. Skin near anterior, a few granules but also a number of long spines (2^d) like on ridges. ② dorsal spines, almost horned. Spines in line. 3 rows on 3 & 4 (and 5.4 just shed by hild) Sept 2

Another little one just shed 2.9 mm on being Sept 3. Stage IV?

IV IV

V

Sept 4 2.9 4.3 sh 5.3 e
" 5 3.4 4.4 " 5.2 sh
" 6 3.4 " 5.0 e 5.2 "

Another 6.7 spring trying to shed. Shed still springy

" 7 3.2 " (4.5 in m)

IV V VI VII
2.9-3.4 4.0-5.0 5.5-7 7.0-

" 8 3.5

" 9 3.4 shed

" 11 4.0 eating IV

" 12 4.5 "

" 13 4.7 "

" 14 4.8 "

" 15 5.0 on back

" 18 5.5 eating VI springy

" 19 6.0 "

" 20 6.5 "

" 21 7.0 "

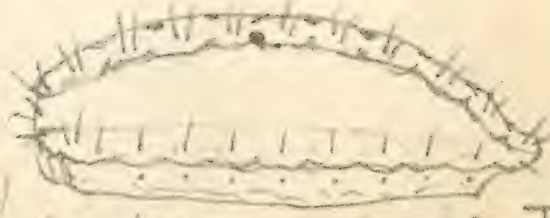
" 22 7.1 "

" 23 7.0 to shed

under Sept 24 smooth, no setae

Sept 24 8.6

(weak)



Length 7.7 (end of stage) VI to show setae (primary). ① two 2-13 ② two 3-4, ③ one 3-13.

IN THE
Lincoln National Bank.

BILLS.

CHECKS.

CBQ

80

94

87

ave

and
a life

7

N 26

*Some almost all testaceous.

pale yellow, slightly

as testaceous, not
sol brown streaking

11/31/74 Hd same, vertex concave W. 6mm

2nd. 1st antennae, abd black, outer edge
of 1st antennae pale, 2nd antennae
white d & stig. line. 3rd antennae white.

1st antennae, 2nd antennae, 3rd antennae
white or black in different light. 4th antennae
same as 3rd antennae.

11/30/74 25 Hd brownish black, labrum white
antennae, in some also parts of clypeus & sides
& back of head, pale whitish. 1st antennae
tubes bulging a little. W. 3mm. Body black,

dark gray or a little greenish. The ventral
black, a whitish whitish straight even
dorsal line, strongly pigged with yellow

in the center of each seg. a pale white
sub-stig. line, ventral a little pale lines

dorsum, feet all black shiny. Hair
various, but some long, abundant.

1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
not biately whitish & black mixed,
1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

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1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

3/16/74

24

Engrailed striata, horns half as long
as body, 1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
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2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
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2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
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2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th
2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th

traces of the trace of
 pits faint out as trace
 of long horns 5 and 11

[= dorsal intersp. dined,
 lat (intersp) and lower
 lat. intersp. depressions]

3-16-94

250

thick smooth near down together

top of head with a fine black point

2 dorsal & lateral rows of white

shallow pits. Color dark purple

rimous a yellow dorsal suture on 5 &

11. Head in the blackish & a

much larger number colored one

on 12 each side behind the long

process. A large bright green

patch covers the back & sides 6 +

10 like a blanket extending

back a little on 12 laterally

leaving an elliptical patch of

the ground color dorsally on 7-9

The blanket is narrow & colored

(a faint white line along SV & SV edge)

5 & 6 dorsal down to elevated centrally

4 pithecanian on corams & black oak
 Glendale L. I. Sept 5 1895



in spring, all the
 tubercles are about
 both 1 and 2

off on one side
 off on the other side

spiracle on 5 only a little higher up (but
 distinct so) than the others,

32-12, appears 1 3-4, 6-13

1 long side, short other 2 short one side long
 other



pulled off horn on one side
 and numbers 2 & 3 off
 the other. They came off
 joints 4 and 6, joint 5

seems to have some & be reduced
 the pieces with neck came off attached

spindly top of horn. black round cap
 the dorsal horn. A small horn
 dorsal tubercle on 2 on 15, 2 on 15, 2 on 15, 2 on 15
 2 on 4, 2 on 4, 2 on 4, 2 on 4

traces of the time at d.
into funnel with at base
of long horns 5 and 11

[= dorsal intersp. dented,
lat (intersp) and lower
lat. intersp. depressions]

large ~~in~~ ~~on~~ ~~the~~ ~~upper~~
dark spines very close together.

dark ~~at~~ ~~the~~ ~~base~~ ~~of~~ ~~the~~ ~~spines~~
only ~~on~~ ~~the~~ ~~upper~~ ~~part~~
dorsal & 2 lateral rows of light
pale color

shallow pits. Color dark purple
on pale ~~cell~~ ~~rows~~
minors, a yellow dorsal spot on 5 &

& 11. Edged with blackish & a
small larger ^[S-d] ~~smaller~~ colored one

on 12 each side below the large
process. A large bright green

patch covers the back & sides, 6 &
10 like a blanket extending

just a little on 12 laterally. ¹¹⁶
leaves are elliptical portion of

the ground color dorsally on 7-9

The blanket is ^(Chukun) ~~apricot~~ ~~red~~
a faint white line along ^[S-d] ~~the~~ ~~edge~~ ~~of~~ ~~the~~ ~~blanket~~

a ~~very~~ ~~white~~ ~~line~~ ~~along~~ ~~the~~ ~~edge~~ ~~of~~ ~~the~~ ~~blanket~~
a ~~very~~ ~~white~~ ~~line~~ ~~along~~ ~~the~~ ~~edge~~ ~~of~~ ~~the~~ ~~blanket~~

5 or 6 lines down to, slightly centrally
a dusky cast, yellowish. Quarter white
small ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
small ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~

3-16-94

250

Chobtion pitternash About to molt.
no 5 joints, "7 larger" withered, not
another at base, legs with ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~

inside. Larva ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
9 pairs of legs, tubercles before ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
larger ① ② short ③ absent ④ ⑤ short ⑥ ⑦ short ⑧ ⑨ short ⑩ ⑪ short ⑫ ⑬ short ⑭ ⑮ short ⑯ ⑰ short ⑱ ⑲ short ⑳ ㉑ short ㉒ ㉓ short ㉔ ㉕ short ㉖ ㉗ short ㉘ ㉙ short ㉚ ㉛ short ㉜ ㉝ short ㉞ ㉟ short ㊱ ㊲ short ㊳ ㊴ short ㊵ ㊶ short ㊷ ㊸ short ㊹ ㊺ short ㊻ ㊼ short ㊽ ㊾ short ㊿ 100

row of super-stig. tubercles 3-12 of ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
on 5 with two on 4 & one on 3. 7 larger from feet. legs,
skin split down whole length of back and
dorsal pulled out forward, the flanges

banding back & sliding a bit out, fastened
by their lower corners. Mouth not visible
eyes black, mandibles & maxillae black

minutely. The latter brown. Hd under 2
(2 not under 3) dorsum flat, rounded post.
angle 1, 2-d edge rounded but brown

a row of curved processes. These 9 pairs
flattened ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
the legs 2-d, the 1st 1st & 2d all ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~

dorsal and the 1st to 4th ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
the second & 3rd are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~

the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~

the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~

the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~

the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~
the 1st 1st & 2d all are ~~on~~ ~~the~~ ~~upper~~ ~~part~~ ~~of~~ ~~the~~ ~~spines~~

4 Pithecanthropus in cornus & black rock
 Glendale L. L. Sept 5 1895.



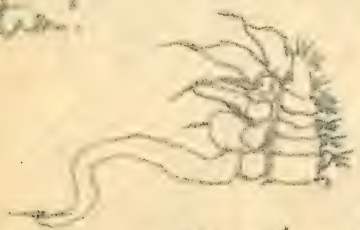
off on one side
 off on the other side

The spring, all the
 between the ribs
 both 1 and 2

Spinal in 5 only a little higher up (but
 distinct so) than the others.

32-12, appears ① 3-4, 6-13

① long side, short other ② short one side long
 other.



pulled off bones on one side
 and numbers 2 & 3 off
 the other. They came off
 joints 4 and 6, joint 5

seems to have come & be reduced
 the bones with such came off attached

to the horns (see alcohol). On side
 where 2^d & 3^d horns were pushed &
 there are three bare segments,
 all almost alike, joint 4 rather
 the smallest. Which one had
 no horn? Was it 4? rather than
 5. Horns ① come from between
 the segs. all right, i.e. ant side
 of seg. ∴ if 4 is out 5-13 lean
 forward. Looks so. 3 tubes of all
 seg. This makes 8 just the long ①
 as it ought to be (cf Euler)
 8. flange (apical?) of 3 overlaps $\frac{1}{2}$ of
 4 while that of 7 overlaps back $\frac{1}{2}$
 of 6, but I can't tell whether 4 or
 5 horn is out. One must be.
 Now I have it! ③ forms no horn. See it
 there in 3 tubercles! The first one is pushed
 forward & overlapping 3. **PUBLISHED!**

1-26
 2-26
 3-26
 4-26
 5-26
 6-26
 7-26
 8-26
 9-26
 10-26
 11-26
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 24-26
 25-26
 26-26

are these Ymbles 3 pieces?

more or less on each side 12

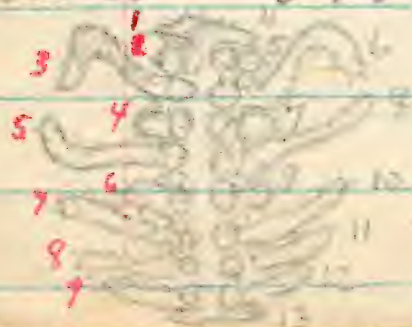
Species small, round, much as
in Emphorina color of body a brown
ferruginous red, below spiracles
nearly white, venter clean pale
yellow, semitransparent. Eyes,
feet small, coluices; abd. absent.

* Hair slightly attached to body at
base, slightly tapering ^{the end} flexible
apparently at mid of base.

Imago March 5, 1891 Cat no 5387 ♂

Phobeton vitticinctus

| | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|----|----|----|----|
| Phobeton | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Euclea | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Sibine | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |



Imago July 1891

* Fine hair nearly as long as others, this making
hair abundant like Ichneumon

500 pupae one of which cases not done, no jings!

Full of Ichneumon (1891) 251 = 108

Natura contracta or white robe Sept 7

last stage (5?) nearly all "Tachinid"

Hd. rather longer than wide, densely

punctured, depressed, ^{at} vertex point

Antennae of 5 pl. labrum whitish.

Body black, antennae black & white
annulated, then bases body black &

half yellowish white, w. of m. c-
shield brownish ochre, anal plate

smooth on ant. half, irregularly creased
on its post. half black, tho. & anal

feet & outward band of abd. black.

Body black & lateral stripe each
side, a s-v int. by bases of legs & central

ventral white or cream white stripe
the lateral from c-spots (and angle

of 2 to 13 ^{center} with the 3rd lateral going
into

lateral as spaces, tho. 4th lateral
(anterior) broader, s-v interrupted on 2 & 3

not on 11, ventral narrow, the base
of the legs, corresponding spot on 5, 6,

11, 12 & a small patch on 13 wing.

(except anal) pale adage yellow.

Hair quite abundant, not long, white
from minute black tubercles.*

Length 30 mm. anal reaction plate

In a few the upper lateral line are narrower
than the spaces, especially first, and the line

are broken. One had 3uffed lateral, & a-v &
a pale yellow, the 4th lateral & ventral white

a double line to 13 in all

dpd 10-3-91

WWWW

"Bolt tail" Larva on *Phytolacca* Sept 8/90
 allied to 247. WW W WW
 Sidal region narrow, highest at 7
 rounded at extremities. Sd ridges
 distinct, not raised under etc. on
 surface. Approaching each other
 feet and overlaid with a yellow
 line which ends on 3, not joining
 Sides nearly L, a little sloping and
 slightly angulated but not forming
 a distinct lateral ridge. 13 prolegs
 on a rather long narrow pointed
 tail, rounded with reddish purple
 above. Body closely covered with
 small transparent granulations.
 Color light yellowish green, dorsal
 region dark green, on each seg 6-11
 a small dorsal dot, larger on last

Back and got. elegans from the larva -
 a pupa found. Another in it was P. elegans.
 (Found Feb 25, '92)
 recorded.

| | | | |
|--------|------|--------|----------------------------------|
| Sept 3 | 10.8 | eating | Setae gone & patches of pigment |
| " 4 | 12 | " | in dorsal space overlying |
| " 5 | 12 | " | the ring of (1) - obscure brown. |
| " 6 | 11.7 | " | (See sp. structural character) |
| " 7 | 13 | " | Light yellowish green, lat. |

slight yellowish green, lat.
 a broad yellow narrow sd
 line free at ends, tail
 reddish brown above. ✓
 the absence of pigment in
 d. of. marked as dark hollow

though it is really flat. Six of (1) are
 small, white ring, around which none
 or less light emerald pigment forms.
 One of a series of interseg. inwardly directed
 jointed yellowish streaks. Lat sp. to line
 edge of (4) light green pigmentation, (4) long
 pale rings with dark center. ✓ A trace
 of pale dot along (2) interseg. Row of
 side clear spiracles white. Tail long
 pointed. Setae very small, pale. Skin
 granules each large, somewhat irregular
 but quite touching. (11) (11) slight lat-
 eral line, less distinct granular, white line

light. These represent the larvae of 256
 Larva Oct 19, Ch. 11. 6828
 with small lat. line & from
 pupa Feb 25, 1892 P. elegans. cadm. 6828

on the dorsal surface of the body

10-3-91

8012 tail "Limonectes" or "Limonectes" (clay)
allied to 247. WW W WW V Soft & go
3 dorsal region narrow, highest at 7
surrounding to extremities. Sd ridges
distinct, not raised undulate, the
one set, approaching each other
for, not overlaid with a yellow
line which runs on 3, not joining.
Sides nearly L, or little sloping over
dorsum, superiorly but not forming
a distinct lateral ridge. / 13 provided
in a rather long narrow pointed
tail, rounded with reddish. Purple
above, body closely covered with
small transparent granulations.
Color light yellowish green, dorsal
region [dark green, on each set 6-11
a small dark dot, larger than

Dr. Packard got elegans from the larva -
a pupa young. Another in it was P. elegans.
(Found Feb 25, '92)

rounded head. W 11, H 3.5. Sides nearly uniform green; above the lateral bridge a row of yellow spots beginning at 4 & becoming indistinct after 9. Lateral bridge with a row of yellowish spots on 6-9. Snout white, small, rounded, conically elevated. A white line bordering snout which is colorless. Ventrals small. Hd green, jaw brown, ^{ocelli} eyes black. L 11, W 5.5, H 3.5. The old lateral ridges have traces of tubercles, not elevated but a little smoother than the rest of the body bearing very minute sharp ^{Scales} scales just perceptible with a lens in certain lights. These represent tubercles of 256 number Oct 9, Cat no. 6827 water grade but elevations from a source Feb 25, 1892 R. elegans, Cat no. 6975

Sept 8 1896 Found 5 at Wardsboro
Vt. of. on 'bleached' wild cherry, 'hickory'
'yellow birch' and 'hop hornbeam'. Got
them on the low land near Wardsboro
station north of the road. Some found
up on the hills.

(687)

| | | |
|----------------------|-------------|-----|
| Calculated .75 = 1.4 | 9 - 1.4 | |
| II 1.4 - 2 | 1.4 - 2 | |
| III 2 - 2.9 | 2 - 2.8 | |
| IV 2.9 - 4.1 | | |
| V 4.1 - 5.9 | (4.8) - 5.6 | 5.6 |
| VI 5.9 - 8.4 | 5.6 - (7) | 8.5 |
| VII 8.4 - 12 | 9.5 - 12 | |

Sept 3 10.8 eating
" 4 12 "
" 5 12 "
" 6 11.7 "
" 7 13 "

~~Sept 3~~ found 6 perils of pipiens
in dorsal space overlying
the ring of (1) - obscure. (See sp. structural characters)
Light yellowish green, lat.
slate clear, d of darker,
a broad yellow narrow sd
line free at ends. Tarsal
reddish brown above. ✓
The absence of pipiens in
d. of. marked in dark hollow

thin rings transverse
on each filling in
all of dorsal space

though it is really flat. Six of (1) are
visible, white ring, around which runs
or less light emerald pipiens form.*
① One of a series of intersecting, irregularly
joined yellow marks. Lat. sp. to lower
edge of (4) light green pipiens, (4) large
pale rings with dark centers ✓ a trace
of pale dots along ② intersecting. Head of
sides clear, spiracles white. Tail long
jointed. Setae very small, pale. Skin
pale, rather large, somewhat irregular
but quite touching at (1) and (4) slight not-
line, less distinct granular. white line

Light green Packardiana on "Hindens," hop
horn beam, 'beach and maple
8, 7.5, 6.5, 8.8, 7, 6, 6, 7.5, 6.3, 5.5, 6.5, 7.5
5.5, 5.4, 6.5, 6.5, 5.0, 5.2, 6, 4.8

4.8 walking Aug 24
4.6 eating " 25
" " " 26
5.2 " " 27
5.3 " " 28
5.8 " " 29
5.6 toiled " 30
Sept 2 5.6 toiled
(over)

9.3^{VI} eating Aug 24
8.8 still " 25
" " " 26
9.2 by cat " 27
9.4 eating " 28
9.5 toiled " 29

Sept 1 (over)
Setae small
distinct, pigments
upper 1/2 lat.
d. vent. visible
(1) & (4) faint
tail red

cl. white, and end rounded, just
pointed but not well tapered
D. space moderate, etc, but
little curved, lat. head, s-v
moderate, but little curved.
Ridge low tubercular with
distinct dark setae, s-v
watery granular, no 2^d spine
white, very transparent, green
pigment only in upper 1/2 of
lat. sp. more in d. space
which is darker from food.
A narrow line (1) band in m
interspace free at ends.
Dep. space do not show ex-
cept faint white ring (4)
Other on with hazel, black
brick, wild cherry and black
oak at Plainville May
Aug 28 (1896) 8.5 toiled 22 7.5 8.5
Sept 3 30 left in net 53

Shed Sept 2 Tharion elliptical with tail.
setae short, black, distinct. Pigment
only upper 1/2 of lat. sp, rest of body
clearer green from food, transparent
& whitish on thin edges. A very yellow
line (1) free at the ends. (1) dep. space very
faintly indicated by whitish
dot middle centrally only;
(4) as large interspace, which
rings, but probably all of
(1) - (8) are present as there
are on the larva drops of a
clear fluid in the space
of (1) (2) (4) and (5); s-v (7) & (8)
are indicated by a narrow
depression faint, but with
a clear drop also. Spiracles
white. Skin densely scaly
coarsely but not conspicuously
clear granular, dep. spaces not marked.
no 2^d spine; setae from small tubercles
[First no spinning Sept 6. Length less than 12 mm]

Sept 2 5.6 toiled
" 3 6 eating
" 4 6.5 "
" 5 7 "
[accidentally
killed]

H. G. DYAR *Copied* 12/11/90
253

YOSEMITE, CAL

elongate, rounded, rectangular, dense

width, rounded, or subulate, sides

Substr.: Soil yellowish, eyes black.

under 2. Along 2-d side of a cone.

short black spines from conical bases

There are 3, 4, 5, 7, 12 & 15 about three

time as large as the other. A simple

superior, row, or 3 & 4 lateral.

6-12 surface str., dark on 4 about 20

low as the 2d. the others of uniform

length, longer & rather slender

than the short subdorsals. All about

An row of descent & lateral ellipsoid

A close-up, horizontal view of the fore-edge of a book. The image shows the thickness of the pages, which appear aged and slightly discolored. The binding structure is visible along the top and bottom edges, showing a dark, possibly leather or cloth, cover. The lighting is soft, highlighting the texture of the paper and the binding.

YOSEMITE, CALIF.

near white oak close to the highway

trusty when the body is retracted.

2nd covered with very minute hairs.

parent granulations. Stripped away

small, circular, 10 cells, yellowish.

brown. Both translucent blue and white

blackish, a narrow yellow dorsal

hair. 5th processes highly branched

one white color extends some 5 ft.
interiorly bet. 457. 2812 and 1112 ft.

the atomic S-d ridge \checkmark the term pri.

ceases same color but paler. faint

Length of yidde 6; height 4 mm.

ga rectangular dark brown spot, the
the last 11th smaller than the 10th.

Another ls. pale green, d-lime, S-d. hard
to submerge in water.

Pistia irregularly, angust-oblanceolate; 5-d. glands

perforated at dist. 1/2 approx. Red-brown when
swollen, white when dry, and white when
in water.

5-d. larva a brown yellowish green
movement 1st stage red.

1. 6. 1941
2. 5. 1941
3. 16. 1941
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98. 25. 1941
99. 25. 1941
100. 25. 1941

[illegible]

Another great 3 yr. 2 spots on side of 1st
* 3 spots, 4 yr. for last 25. Same on 5. Same
marked sp. same even
width.



8-9 and 10-11 a
large pale yellow
1st patch like a
swooshing in narrow
yellow 1st line with
red dot internally
another red beside
a pair of red dots
9-10 and a single
dot on left side 11-
12 but without yellow

Depressed space. 4 d. per seg. may be most likely 4 centers of Eusloids. Like Anceles, adductors wanting, but possibly represented paired dorsals & small adductors. Upper lat. seg. absent. Interseg. and lower lat. interseg. large but on the segment, complement along the posterior border. Lower lat. seg. small round, looks rather like a spiracle. More distinct in the very contracted SV space.

5/11/1900 on 364 small, elevated points of 20-25' laterally around a point.

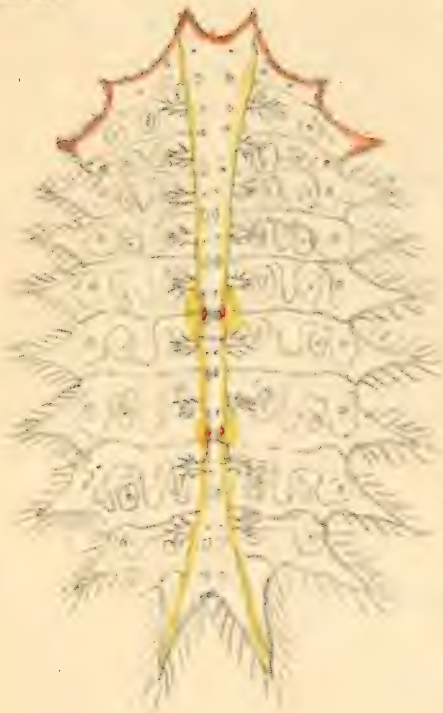
July 1908

gap as
approx. 1/2
= 58
16-17
3-16-17, 189
Merrill's House

obviously mix took different areas 5 for spicules!

3 & 4 small, elevated portion of a ego laterally surrounds apical
2 & sends back bran cile to post edge centrally; in the
2 spaces thus formed are 2 elevation depressed
centrally the upper slightly kidney shaped
the lower circular a double dorsal row
of impressed spots

max. sep. same even
width.



8-9 and 10-11 a
large pale yellow
s.d. patch like a
swelling on narrow
yellow s.d. line with
red dot internally
another had beside
a pair of red dots
9-10 and a single
dot on left side 11-
12 but with yellow

depressed spaces. 4 d. per sep. may be
most likely, 4 center of Euclid. like
dorsals, adducts wanting, but possibly
represented paired dorsals & small adducts
Upper lat. sep. absent. Intersep. and
lower lat. intersep. large but on
the segment, confluent along the
posterior border. Lower lat. sep.
small, round, looks rather like a
sprinkle. Une distinct in the very
contracted s-v space

Pachydesma on Raspberry, Receipt
L. J. Aug 1 1896

Stage ^{4.5} 5.0 (5) Skin ~~crispy~~ ^{water} granular, ridges tubercular + spines
Stomach whitish (1) line & d. dots
Stage 3.5-3.7 (5) ~~to~~ ^{shy} Similar,
granules sparse, (1) line whitish,
tail moderate.

2 Stage 2.6 Tail quadrater. Covered
with 2^d spines. Green, whitish (1)
Black spines

2 Stage 1.9 Same, sparse 2^d spines
laid out over back

2 Stage 1.6 Front green, similar, no
lines. Skin sparse 2^d spines

Stage 1.2 Smoky ~~gray~~ ^{very} whitish green.
Taint yellow (1) dark green above

Stage 7.6 (2) White green, spines
ridges. Pale yellow (1). Green spots
dots white (4) green centered

| | | | |
|-----|---------|---------|---------|
| I | .88-1.3 | .9-1.4 | .9-1.7 |
| II | 1.3-1.8 | 1.4-1.9 | 1.6-2.5 |
| III | 1.8-2.6 | 1.9-2.7 | 2.3-3.5 |
| IV | 2.6-3.7 | 2.7-4 | 4 |
| V | 3.7-5.3 | 4-6 | 6 |
| VI | 5.3-7.6 | 6-9 | 9 |
| VII | 7.6-11 | 9-14 | 14 |

to shed 5.5- A Inf house
just shed 5.0 B "
eating 7.5- C "
" 9.5- D checked

all without horns, of
very only

Another 13 mm.

Harris III 6 good, OK
with the slight addition
I made on it in pencil;
too long in 13 so just
let him on it!

also on chestnut

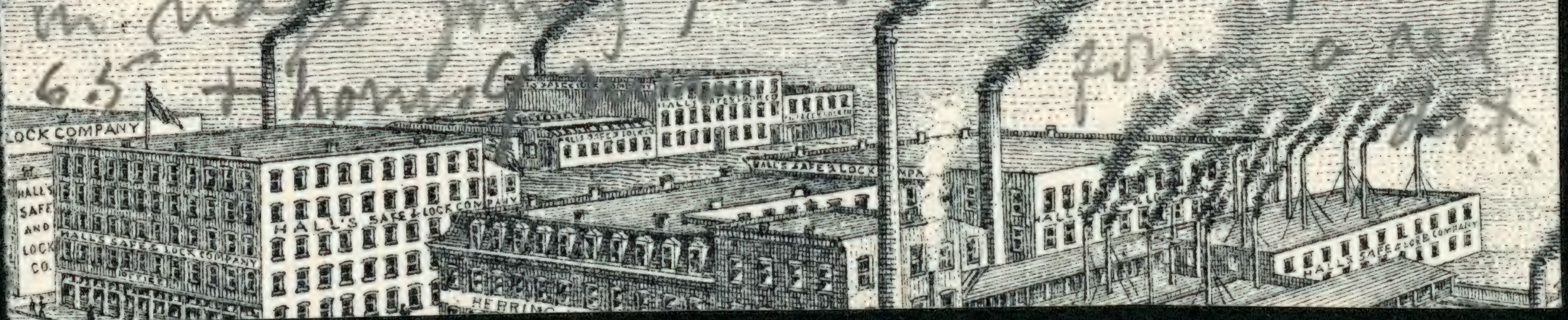
Sisyrinchia inornata on
hop hornbeam, Fort Lee, Sept 3
1895. D. space very narrow, most
as at 7-9 widening to ends (!)
lat space very broad, s-v space
very small, contracted. Tarsa
all sides ; very flat. Tuberc.
flat pointed horns projecting
laterally, ① 3-13, 3 & 13 long
other smaller, 9 & 11 a little
larger. ② 3-4, 6-12 | space in
5 in lateral space) all rather
long, most so post. Spines with
separate black tips. Skin all
fine clear wavy wrinkled horns
trans. corrugated. Depressed
spaces show only glandular center
but distinct, white ringed, dorsal
4 centers, and obscure 1 center.

upper bed intersecting lateral intrusives & lower bed.
se. present! S-V space to small of

HALL-MARVIN

see any. S-v edge with no ridge L9 W6 H1.1

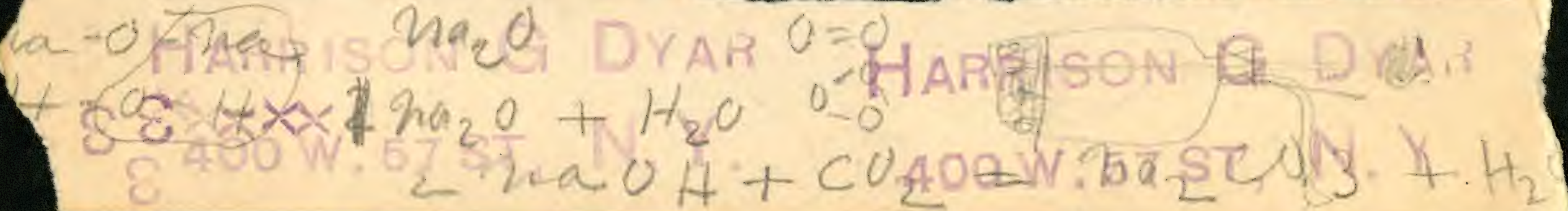
① 3 ② 3, 4 salmon red black & green
best green, depressed with colorless
with pale yellow ridge. yellow in
on ridge joining 9 and 11 and then
6.5 + horizontal for a red
dot.



HARRISON G DYAR

400 W. 57 ST, N. Y.

447



256(cont) Stage VII, Length Jul 26

7.7 mm, (ant 6 turned sides white) same features
leaves L. 11.5 mm. Spinning 11 AM.

Transparent granules close covering
whole surface. Impured areas very
small, central d. smooth whitish
with green centers. Intersegmental
ad-d. ones absent on surface, but
represented by white dots below
skins. Lateral hinge areas in-
dicated by pigment under granules,
the smaller ones not represented.
Tubercles obsolete, setae minute
2 on ①. 8 x 3.5 mm Jul 29 elongate
narrow, 13 a pointed tail. Height 2.5
whitish green, not yellowish. a

d. green line interrupted by thin ^{15.7}
white unspiced spots. 5d line ^{25.6}
yellowish white, connects 3 & 4 on tent
edges above dark green. a row
of white dangles on tent ridge
the lat. impressed spots white
with dark center as d.

Gently arched, highest through
7-8. Seems to be 121 = 256

but small. 5d line straight
running with tent. Differs from
256 in coloration of 5d line at ends
& the white of distinct 1st
impressed spots. 9.7 x 4 July 31

Aug 1 10.5 x 4.3 Aug 3 11 x 4.2 ^{white green}
observed a ^{longer in white}

Aug 2 1.7 to 1.8

" 3 " "

" 4 " "

" 5 " "

" 6 " "

" 7 " "

" 8 " "

" 9 collapsed

Little code on wild
cherry Ballpark L. I.
On back of leaf need
analysis to find.

Elongate elliptical,
sides parallel, ends
rounded, tail squarish
D space broad, slightly
concave, but moderate
SV space rather broad.
Ground plane whitish
green, no nerves. Setae
black tipped, iiii
moderate remote to

1st ridge, a few 2^d apert. pores
on the ridges, most on ②. ①
slightly tubercular, ② distinct 50
Skin finely warty granular not
a shagreened appearance, def. Spines
from faint reticulated creases on the
back, all defined & concolorous

PAN leaps and pipes all summer long,
The fairies dance each full-mooned night,
Would we but doff our lenses strong,
And trust our wiser eye's delight.

95

July

18

Mon.

Tue.

Wed.

Thu.

Fri.

1

2

3

4

5

8

9

10

11

12

15

16

17

18

19

22

23

24

25

26

29

30

31



Like *Pachandia* 256A but 2-headed and 8.5 mm long.
elliptical with a narrow graduate tail.

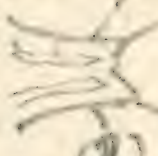


Ridges angled, the lateral area about flat. yellowish green, the lateral parts paler being thinner. A yellow

line on sd ridge nearly joining on 3 and passing narrow to end of tail. D. a ad impressed space and a broken line along lat. ridge pale yellow. Skin punctate clear rather remote. D spaces depressed, round, and only spots below skin. Lateral ill defined hollows, the skin uniform right over them. Tubercles conic, clear 2 each on ①, one on ②. Hd. about 1 mm.

Molt Aug 12 Came out thin white green *Pachandia* like the others. At first not clean green as before sd line yellowish white impressed spots and dots on lat. ridge whitish. Gradually a white shade overpread whole body defining the sd line by a dark green shade above. Aug 14 10.5 mm (not nearly so white as other *Pachandias*) Aug 15, 11 mm Aug 16, 12 mm much whiter, almost like other *Pachandia* suggests a "blue green" now. Aug 18 Can hardly separate.

A Packardia on black oak Belleport
 L. J. July 19 1896. IV

| | | | |
|---------|-----|---------|---|
| July 20 | 4.6 | eating | Clear green, are 2 |
| " 21 | 4.7 | " | waved line along ① |
| " 22 | 4.5 | to shed | 3 just to tail, a faint |
| " 23 | " | " | line along ②. Dorsal |
| " 24 | 4.8 | eating | white with dark center |
| " 25 | 5.2 | " | more distinct on sides |
| " 26 | 5.2 | " | 13 produced quadruple |
| " 27 | 5.9 | " | notched beak |
| " 28 | " | still |  ① and ② |
| " 29 | " | " | ① ① Tubercles |
| " 30 | " | to shed | critical, continuous |
| " 31 | 7.0 | eating | ① 2 setae ③ 1 seta |
| Aug 1 | 7.2 | " | black. Skin sparsely |

V
 watery granular, on tubercles also
 but nowhere produced. No 2 setae

~~July 20 to 31~~ What July 24 ①
~~July 20 to 31~~ double curve
~~July 20 to 31~~ ② single curve
 setae dark ^{up} line along ① below
 skin straight, yellow. Tail
 more produced, not notched,
 narrower, color same, a row of
 white rings on sides. Skin
 watery granular
 Shedd July 30 PM. Seem, in

[Another July 28 length 4.9 on wild cherry.
Hunted for its shell. Found an old shell
on same branch without eat. Slightly on
under side. Flat, elliptical 1.8×1.5
set. narrow, plump irregular obscure]

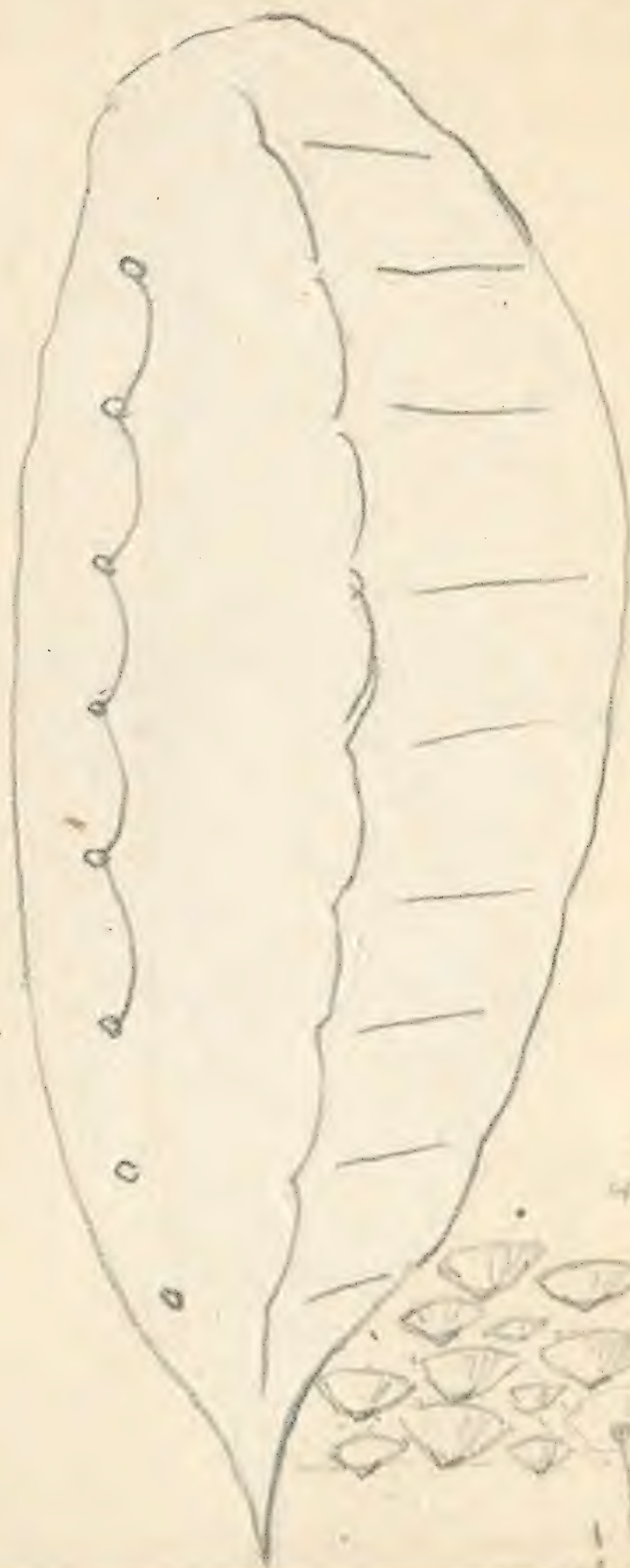
Stage VI as all regularly warty
granular yet long stiff dark
setae on the scarcely tubercle
ridges. Tail well marked. Green
yellow sd line edged darker
green above. D. paired add.
whitish spots, the former obscure
green centered. On lat row.
interseg. green centered. Tail
is made of 13 produced - a long space
between ①12 and ①13 and the actin
of the latter separated.

256



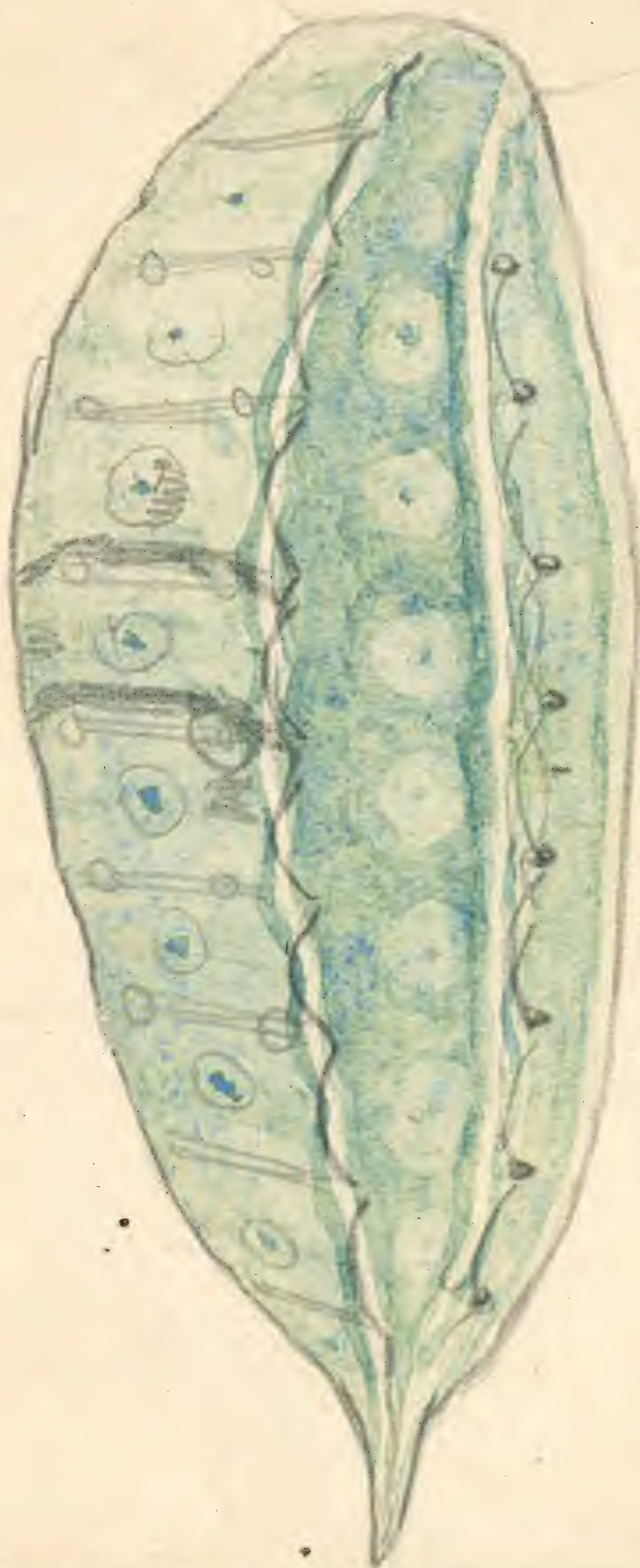
Long Island
July 2 1896

256



Grain
VII





Scale 4 6 8 1.2 1.7 2.4 3.5
 Toned 4 5 6 1.2 1.7 2.3 3.2-3.6
 Copied 6 12 11 257 (see 460)

YOSEMITE, CAL.

H. G. D. 12.3
 Sept. 23, 1890. The head one, no 23 mm in
 rect but hair less abundant not very
 7th 1st covered, smooth shiny black
 brown & black, sometimes white,
 a few hairs, and 1.2 mm black
 black, the feet shiny black, and white
 with black hair, the clasp is whitish
 their minute fimbriae brown; the scales
 white. From black 10-12, 13, 14, 15
 are small on 2, 4, 6, 8, 10, 12, 14, 16
 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
 are small on 3, 6, 11, 12 & 13 ant. all
 ant. heads spreading by 1/2 of yellow
 scaly hair, but not in color than
 that of thorax. From 10, 11, 12, on
 the upper side forming a row of 20
 black spots, one on 5 & 6 on a dorsal

H. G. D. 12.3, 12.4, 12.5, 12.6, 12.7
 At Matteson, Aug 2, 1892, H. G. D. 12.7 same kind,
 concolorous with hair.

YOSEMITE, CAL.

2 11 (centrally on wing) a rather large
 black spot; from the upper margin
 of 10 a few long white hairs are
 also seen 3 & 4 on 5 & 11; from 3
 6 & 12 & 13 ant. hairs on 12 form
 a row of hairs, the one from 3 on
 12 forming a decided pencil, the
 entire length of white hair 10 mm
 length of hair 20 mm (see from 1892)
 patterned by part of one side, elongate
 elliptical, much like coracae, black
 base of sub-stem, the first hair at
 stem as a coracae. L. 21 mm
 tricarinae 10 mm. Pupa thorax, a black
 enlarged centrally, depressed between,
 small side slightly, slightly flattened
 base of base, rounded, and a small
 motion slightly dark brown, white
 a spot of yellow hair V, 2 on W 6 on
 Tringo Feb. 1 1891. H. maculata T

47

54
4-
2-
1-
1-
1-
1-

along the mouth. 14 mm. Body robust
with short & thick conical denticles
triately (but short) spines. On 2 short
styg & s-styg beside tubercle. C-shield
on 3-4, s-d, lat, s-v; on 5-11
d, s-d, supinstyg. s-styg, 2 s-v;
on 12 2 dorsal (in line) s-d, supstyg,
s-styg, s-v (small); on 13 2 s-d (in line)
C-shield, anal plate & feet ventral
spiracles black. Body brownish red
a dorsal & s-d black shaded line
most distinct in seg. antures (Phycodes
carlota)
Pupa May 2 in s-l. ventral side of pupa
Image May 15 - Cut No 6156

Hb. by calc. .50 .75 1.1 1.6 (2.35) (3.46) (4.6) [7.64]
 Found .5 .8 1.1 1.6 2.3 2.7 3.4
 or by calc. .55 .78 1.1 (2.29) (3.26) (4.6) [7.70]

copied
 Nov 1, 91

Eggs of 28 1/2, hatched May 1, 1891. Hd.
 Seg. / pale subtranslucent brownish, darker on
 ventry, eyes black, mouth brown, shiny.
 W. 5 mm. Body pale whitish, warts conical
 blacker centrally which are blackish,
 the 5-d on 2 larger than the others. An
 indistinct white d-line. Scuta & legs pale
 hair long, irregular, no bristles or plumes.
 Can't distinguish reticulate tubercles with glass
 as at ad. it is seen to be a ad. dark brown
 line ① while the warts on 5-8 (off row
 ②-③) are black (the maple is near 4) ✓
 [Sh. ad. of eggs hatched]
 Aug 21 1st 8 Hd pale reddish brown. Body
 pale yellowish, a 5-d black band
 and a broad dorsal one 9-12, confluent
 just with the lateral ones. 12 is
 not black. A black red dorsal shade
 on 4, 5, 9. 5-d on 2 a 2 large, black
 as well as 6 on 12 bear a few short

Calc. .55 .76 1.1 1.5 2.0 2.4 3.88 v. 72
 Found .5 .8 1.1 1.6 2.1 2.7 3.5

Plumed black, but no brush
 tufts yet. 11th seg. black & white + subtranslucent
 on 10 & 11 large, distinct, a like the
 C-shield pale yellowish just tinged with red
 becoming decidedly reddish toward tip & stage
 8th modern darker brown C-shield ridge
 No. 3 13 (Hd pale reddish brown) eyes black
 [Sh. ad. 1.1] (looking through red)
 W. 1 mm Body whitish, becoming pale
 yellow dorsally, a dark gray broad lateral
 band & a black d-band in 11 places on
 3-4, wide on 5-8, narrow on 9-12,
 absent on 13. Boreals on 2 (5-d) & 12 (d line)
 plumed, evident as in next larva. Brush
 tufts on 5-7 with traces of mouth as 8
 distinct, pale yellowish. Ret. tubercles on
 10 & 11 large, coral red. Other hair long,
 black, whole appearance child that
 of the mature larva. Legs all pale.
 The warts are pale grayish. ✓

July

4. As. tub. 1.6 1.6
 Head 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1
 Head 2.1 in the eye blackish
 more black ventrally, labrum and
 antennae pale. Ant. spat. 1 shield a
 red tubercle coral red. Brush tufts
 large, white, pencil long, black
 plummed. Labial dark gray band, distal
 velvety black band tuft on 3-4
 red band 9-12 yellow, 5-V whitish

Head 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1
 Head 2.1 in the eye blackish
 more black ventrally, labrum and
 antennae pale. Ant. spat. 1 shield a
 red tubercle coral red. Brush tufts
 large, white, pencil long, black
 plummed. Labial dark gray band, distal
 velvety black band tuft on 3-4
 red band 9-12 yellow, 5-V whitish
 Head 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1
 Head 2.1 in the eye blackish
 more black ventrally, labrum and
 antennae pale. Ant. spat. 1 shield a
 red tubercle coral red. Brush tufts
 large, white, pencil long, black
 plummed. Labial dark gray band, distal
 velvety black band tuft on 3-4
 red band 9-12 yellow, 5-V whitish

[Sh. hd 2.5 2.2 2.2 2.2 2.2 2.2 2.2 2.2]
 Molt June 17. Same as
 mature. Hd dark coral red, ocellus
 ocelli a little darker. Same as 182.7 mm
 C-sh & tubercle coral red. Ventr. pale yellow
 shaded with blackish. Pencil s-d on 2
 and angle d. on 12 long, compound? black
 plummed hairs. 4 large brush like tufts
 on 5-8. Broad velvety black d-band,
 enclosing small yellow tubercle of row 1
 and red ones 10 cell. on segs 9-12. On
 3-8, dorsum all black except vent.

S-d yellow band. Lateral region dark
 gray except venter. 13 only shaded, green
 a yellow sub-stig band; venter green. 14
 pale yellow, clasper brown. This long
 black line from venter. vent 1 small
 14 very small, hair from st. minute
 15, 16 large 17 small 18 small 19 large
 [Sh. hd 2.5 2.2 2.2 2.2 2.2 2.2 2.2 2.2]
 (one began to even June 13, Head 2.5 mm)
 Hair pencils 10 mm long
 Molt June 19 Hds. 3.4? Same. Same as 182.7 mm
 one even June 22 except the yellow venter 14 with 2.5

182.7 mm

cube .55 .76 1.1 1.5 2.0 2.8 3.8 v .72
 Found before. — 7 1.0 1.5 2.1 2.8 3.5
 now H. 5 G. D. Y. 2.0 2.5 3.1
 (261) *Agrypa defuncta*

28/99 *Agrypa defuncta* YOSEMITE, CAL.

darker on vertex, eyes black, mouth brown
 (sh lid .5 full smooth 4)

14.5 mm. Body pale whitish, wants s & p 2
 larger than the rest, the dorsal wants blackish

Hair long, pale whitish; no pencils, much
 tufts more attractive tubercles, as the stage

advances all the wants become dark.

ocelli black, mouth brown
 (sh lid .5 full smooth 4)

Small blackish pencils on 2 & 12, set.

Pencils present, whitish no color, no

dark tufts, dorsum of 9 yellowish, otherwise

pale whitish, with faint s-d gray bands

(sh lid 1.1, 1.2, 1.6)

Molt June 7 Head 1.2 Pst tubercles & pencils

present as also 3 tufts the first very small

(sh lid 1.5, 1.6)

262 Another lid 1.2

Noctuid on oak, Yosemite cal. May 22, '91

Hd slightly depressed at vertex, cord, stig

pale green, mouth white, ocelli brown

11.8 mm Body enlarged at 12, feet normal

pale green, a d, s-d & super-stig pale

white lines, the s-d dentate upward on

12. Many round small white spots each

bearing a minute seta, body shining, rather

a little looping, molt May 25. Hd 1.2

[Another same but more distinct. Stig

line yellowish above. Spiracles black

ringed. s-d line undulate. Hd 2.2]

Imago July 21 *Pyrophiola pyramidoidea*

very small. In some not distinguishable, in

others whitish, but I could see no hairs from them

Egg 263 Slightly tapering, cylindrical, flattened

at each end, one end rounded, the

other (large) flat. Skin pale cream color, the

flat end white. L. 1.5 mm. W. .6 mm.

apparently covered with minute hairs (from one of 2)

in some sps. almost completely replacing
the black d-band, except for 2 rounded
black spots, which are the central pores
of the spiracles 263 (Stage 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100)

Chrysocampa on deciduous trees. *Chrysocampa*
Cal, May 12 3/4 Head powder, *Chrysocampa*
black mottled, mouth black, lower part
of clypeus white. Antennae white, rigid
1/3 mm. Body black, densely covered with
fading blue over the whole lateral region
except a few black markings &
a subquadrate black spot on each
seg. Centrally, laterally, broadened below
than above. Below the spiracles
the blue becomes nearly white and
ant. tuft of silky white hair grows
from the skin. Tracheae of a S-V range shade
brown rather broadly black, with
irregular outline, retracted between & in the
middle of each seg, & containing a double
canal. Irregular orange line which
is heavier in the posterior part of each
segment & of considerable conspicuous
orange thick hair. Other hair longer
blackish. Joints 2 & 3 unornamented

Feet tipped with orange. One been *C. distincta* (See Mack, Trans Ent. 121)

263 Coon composed of silks, thin hair made of opaque
yellowish powdery substance. Paper cylindrical
rounded out, abd. segs entirely and evenly much de-
creased in diam., last seg. rounded, cremaster more
stout, curved by point of substance 2 1/8 W 6 mm

Arctostaphylos purpurea
Noctuid on *Mangifera* *Arctostaphylos*
Hd. color brown, *Arctostaphylos*
antennae 1/3 mm. *Arctostaphylos*
ocelli black, *Arctostaphylos*
antennae 1/3 mm. *Arctostaphylos*
green, thickly *Arctostaphylos*
greenish white *Arctostaphylos*
green, very *Arctostaphylos*
totally distinct *Arctostaphylos*
broadened & re- *Arctostaphylos*
tracted above *Arctostaphylos*
pendent into *Arctostaphylos*
pale black *Arctostaphylos*
pale brown & *Arctostaphylos*
disappeared in *Arctostaphylos*
body (part) and *Arctostaphylos*
more minute ones below on the *Arctostaphylos*

4.
African Rhopalocera
nymphalini

in some segs. almost completely replacing
the black band, except for 2 rounded
black spots which are the central pores
of the spiracles. 263 (Stage before 2.3 same)

Chrysocampa on deciduous oak. ^{2.3} ^{2.3} ^{2.3}
al, Aug 22 '91 Head powder blue

black moths. mouth black, lower part
of chin white. Antennae white, segs

W 3 mm. Body black, densely covered with
powdery blue over the whole lateral eye

leaving only a few black spots &
eight/radiate black spot on each

seg. centrally, laterally, rounded below
to an orange dash. Below the spiracles

the blue becomes nearly white and
ant. base of silks which hair grows

from the skin. Trachea of a S-V pale, shall
border rather broadly black, with

irregular outline, retracted between & in the
middle of each seg, & containing a double

transverse irregular orange line which
leaves at the posterior part of each

segment and considerable conspicuous
orange tented hair. Other hair longer

blackish. Joints 2 & 13 unornamented

Feet tipped with orange. One leg

C. coarctata (see R. H. F. & L. 121)

263 Coon composed of silks, thin but made opaque
by a yellowish powdery substance. Paper cylindrical
rounded out, and segs centrally and distally much de-
creased in diam. Last seg. rounded, cremaster more
filose, curved & pointed. 6 segments L 18 W 6 mm

Arctostaphylos purpurea
Noctuid on *Mangifera* ^{2.3} ^{2.3} ^{2.3}
Hd. concolorous with body, mouth

& antennae pale. ^[Shad 1.4] ^{2.3} ^{2.3} ^{2.3}
ocelli black, white 3. Body in general

more or less the color of the pale parts of
mangifera leaves, under the glass white

green thickly mottled with little confluent
greenish white spots which disappear to

form a very obscure dorsal line and a
tolerably distinct stig. line which becomes

broaden & even evident on 11-13, yellowish
bordered above by a reddish shade

expanding into the anal feet. Spiracles black
pale black ringed. Many minute black

pinkish spots, on the central seg.
displaced in 4 tropical forest, Aug 22

Aug (part) and anterior 6 parts. S-V line

very minute as dorsal line on the

~~Asclepias~~ ~~egments~~ ~~1st~~ ~~largest~~ ~~white~~
~~pinkish~~. The larva rests on the
~~leaf~~ appearing fat. Length 15 mm.
 Molt May 24 Same Hd 2.1 mm. ^{202.3} [Pl. 102.2]
 Another hd 2.2 Molt May 31 Hd 3 mm.
 Same as before. Hd pale green, mottled
 only on each side above the eyes, antlers
 of chyliferous marked in whitish
 Pupa Cylindrical, rounded, very coarse large
 cremaster represented only by a very
 slight rounded prominence. 3 smooth
 abd. seg. incisions large. Color rather
 light red brown with a whitish bloom
 especially over the caudal thorax.
 L. 19 mm W 6 mm.

Linago July 23 Cat no 6712
Hadena ethnica Smith
 J.B.S. Mar 22, 1899

Later Hd 3.2 mm whitish green, few black piliferous
 dots, mouth whitish. Body green, speckled with
 white, pil. dots small black. narrow d, faint S-d
 stig, faint S-V white line, upper 2 connect on
 12 to 13 at head white band on lining (Stig perfect)
 Proctoids on middle 2 wild clearing?
 Shield white thin fine
 greenite Nov 27. 91. Stage 1.1 [Sh. hd 1.1]
 Hd whitish green with many small round
 black dots, mouth brownish. Body en-
 larged at 12, not uniform, legs normal
 but loops partly. Leaf green d, S-d,
 stig, narrow straight white lines
 of equal width & distribution, the
 upper ones joined by a trans band on
 the lining on 12. Many distinct round
 black piliferous dots ^(265-A) Stage 1.5 hd
 Hd same but more whitish. Body
 purplish, d & S-d line as before
 with a faint lateral sep. from stig
 by a black line. Stig line very
 broad, white, shading into yellowish
 on S-V fold & is seg. incisions
 rather concave with overarm

2 and cap 42 with a pale yellow line
Erugina Oct 11 1891 (Tung in cotton)
Cat nos 6829-30 267 *Xylina*
oregonensis 713

Proctid on oak Yucca May 29 1891

In stages practically same as 22 & 37

Hd. moderately bloated, smooth, shiny green
mottled obscurely with yellowish green
mouth parts pale, whitish, ocelli brown

W. 3.7 mm. A few short hairs from head
Body lusterless yellowish green (12 not
perceptibly enlarged but 13 small) dusky

covered with little short irregular
yellow lines resembling molting, and
narrow broken almost dotted, d, s-d
(as on 22 and 37)

a zig line of small white marks
resembling the molting. Spiracles small
white with a narrow black border.

Piliferous dots distinct, white, each
with a single short pale seta. Tip of

abd. feet pale. Lat. marking more distinct
old mark mottled with white, leaving 2 vert. lines
and co. each side central anterior. Stage line
more dark, pale yellow, spotted with red & black

268

Geometrid on oak Yucca May 29 1891

As in next stage Hd 1.8. Stage 27 Hd flat
front, slightly bilobed, pale brown sensibly mottled
with little pale yellow granulations, obscuring

the ground color at the lower part. ocelli
dark brown, jaws dark, the other mouth parts pale

The feet on 2-4, abd on 10 & 13 only. Thorax

Body below pale, minutely speckled with
brown, above a broad stig. pale yellow

band enclosing the spiracles which are
white with a narrow black border. A

d & lateral geminate black line, wavy
fulcrulent & interrupted, between which

are 2 or 3 similar but fainter brown lines
on a dull golden yellow ground - all the

dorsal & lateral surface being closely covered
with minute pale yellow granulations.

C-shield & anal plate dull yellow dotted

with brown, the dots forming the broken
continuation of the lines on the dorsal
surface. a few short blackish hairs
(on moths)

Egg in ¹⁹⁹³ batch by ♀ bet. tin & cloth (under back of cloth)
together, spherical but somewhat pressed out
shape together, slightly shiny, smooth. D. 5 and 6
Color yellow, ending in 69. irregularly indented

Sbt 1st 1st YOSE 312 20th AL. ~~transmitta~~

moths curled in houses on ^{elderberry} ~~Sambucus~~
rest of royal YOSE 312 20th AL. May 30, 1891.

Hds. 1.8, 2.8 2.8 2.6 2.8 & eight more same
head entirely black except bases of antennae

which are whitish, ^{antennae} shining but under
the glass slightly obsoleted. A few hairs.

Body plump & smooth, tapering at the ex-
tremities, curled spirally when at rest.

Small black piliferous dots ④ stig. post.,

⑤ & ⑥ ant. & post. subx., ⑦ very small, on
legles segs. below. Thorax dark olive

grey, contains a broad yellow dorsal
band which is broken into 2 round

spots on each segment, the anterior
one of which is ^{trapezoidal} indented or nearly

bisected on the dorsal line. This mark-
ing is narrower towards the extremities

& becomes somewhat confused. Below

269 Cal 3, 5, 7 1.1 1.8 2.8 n., 64

found (.3) **YOSEMITE, CAL.**

the olive green is a narrow interrupted
interrupted S-d band bordered with
black, a lateral blue gray band and
a broad stig yellow band separated
from the lateral band by a very black
line. Venter bluish gray feet yellow-
ish. ~~Streaked with black~~ ^{subventral}
spines black. In another example
the dorsal & lateral regions are con-
colorous, bluish gray sprinkled with
black streaks, the dorsal & S-d
bands edged with black. Anal plate
unornamented. Corn of silk, tolerably
thick and not at the ground. Pupa
cylindrical, abd segs tapering, coxae
strongly moderately enlarged, annulate
tapering flat, armed with short bristles.
ven. lively. Pupa smooth, pitch ^{dark} ^{dark} ^{dark}
white, pale in the 3rd ^{incisures} ^{incisures} ^{incisures}
L 17.5 W 5.5 mm. June 30 1895

270A = *Thecla grunns*
cat. no. 6562

7 1.2 290 (+ants)

Thecla? on new live oak shoots, ^(sh. l. 7) ^{grunns}
May 20, 1891 Hd 8 mm Hd black, labrum
whitish. Body flattened, a S-d ridge,
tapering especially post. but rounded
segments arched, head retractile
a distinct S-v ridge, L 10 W 3 mm
Body very minutely pilose with two
tufts of 2-4 setae per seg along the
S-d & S-v ridges, yellowish green,
the S-d ridge faintly overlaid with
yellow, the S-v ridge with whitish
and strongly tinged with pink on
the S-v space. Legs normal, short.
A ^(no ants) ^{two other} ^{less distinct} ridged and
H. G. DYAR
darker green, lacking the pink tinge.
YOSEMITE, CAL.
most from 4? Same body with annulate
white ^{annulate} ^{annulate} ^{annulate}
pink almost absent. Head about

as stage adv.
 a distinct yellow line on o-v ridge & faint
 12 mm body yellowish green
 minutely pilose. (No black, ^{upper half} ~~rest~~ ^{rest} ~~rest~~
 white. ~~Remnants~~ of the darker green
 ones had **H. G. DYAR**
 except a black shade on each side
YOSEMITE CAL.
 all the rest dark or bluish green,
 lacking white granules. but minute brownish
 (little one died 4/12/2)

270 X = 7 gummies

Aug 17 1st Bottle 110
 Aug 17 2nd Bottle 110
 Aug 17 3rd Bottle 110
 Aug 17 4th Bottle 110
 Aug 17 5th Bottle 110
 Aug 17 6th Bottle 110
 Aug 17 7th Bottle 110
 Aug 17 8th Bottle 110
 Aug 17 9th Bottle 110
 Aug 17 10th Bottle 110
 Aug 17 11th Bottle 110
 Aug 17 12th Bottle 110
 Aug 17 13th Bottle 110
 Aug 17 14th Bottle 110
 Aug 17 15th Bottle 110
 Aug 17 16th Bottle 110
 Aug 17 17th Bottle 110
 Aug 17 18th Bottle 110
 Aug 17 19th Bottle 110
 Aug 17 20th Bottle 110
 Aug 17 21st Bottle 110
 Aug 17 22nd Bottle 110
 Aug 17 23rd Bottle 110
 Aug 17 24th Bottle 110
 Aug 17 25th Bottle 110
 Aug 17 26th Bottle 110
 Aug 17 27th Bottle 110
 Aug 17 28th Bottle 110
 Aug 17 29th Bottle 110
 Aug 17 30th Bottle 110

1st line 1.4 mm about equally uniform
 broken 2nd one, all minutely pilose
 less distinct top of setae, brownish
 1.6 mm W 6 mm height
 height 5 mm (green)
 (only 1 light green)
 Light green suspended June 10
 Pupa June 15 over 11

C-shaped
 of shape on
 the post half
 of 2
 degree

Aug 16 (taken 5th inst and
 almost continuous)
 piliferous dots. (blackish greenish dots)
 single s-d dot 2 on s-v fold
 pale whitish green lines (becoming yellow)
 spiracles and **YOSEMITE CAL.**
 A suspended 13/4
 mm apart) no red setae, but
 pale s-v ridge long **YOSEMITE CAL.**
 round diamond depressed c-shaped
 on 2, about the center of the joint on
 which the blackish bluish
 piliferous dots are smaller than
 elsewhere Pupa June 16 (2nd inst 1.3?)
 much as **H. G. DYAR**
 colored rounded, light green
 depressed but the color pale
 green, spiracles blackish (but
 faintly a bright yellowish s-d line
 in arched, faintly on the s-d line
 as a red yellowish dots June 16/17

Pupa 270 Short, thick, flat on ventral
side, rounded dorsally especially
the abd. a depression bet. thorax &
abd. Fastened by cremaster & a loop
of silk. Pale reddish pinkish
speckled with black, a black
dorsal line on the head, 2 confluent
spots on depressed bet. thorax & abd
& a subdorsal row of black dots
on the abdomen DEAD!

alcohol
& head

Parts of head.

"eyes" = ocelli (ocellus)

" Δ plate" = clypeus = Δ pl.*

"labium" = labrum

"back of head" = occiput

in front of occiput
or forming part of
the sides of head
& even of the under
(ventral) surface } = epicranium (?)*

"vertex" = vertex

"clippers" = mandibles*

"jaws" = maxillae*

lower lip = labium

*Zetter

xx Pupa 270 Short, thick, flat on ventral
side, rounded dorsally especially
the abd. a depression bet. thorax &
abd. Fastened by cremaster & a loop
of silk. Pale reddish pinkish
speckled with black, a black
dorsal line on the head, 2 confluent
spots in depression bet. the abd
& a subdorsal row of black dots
on the abdomen DEAD!

alcohol

5 head

997

Parts of head.

"eyes" = ocelli (ocellus)

" Δ plate" = clypeus = Δ pl.*

"^{above mouth}labium" = labrum

"back of head" = occiput

in front of occiput
or forming part of
the sides of head
& even of the under
(ventral) surface } = epicranium (?)*

"vertex" = vertex

"clippers" = mandibles *

"jaws" = maxillae *

lower lip = labium.

Parts of the Body

Packard

Edwards

| | | | |
|---------------------|---|---|---------|
| Head | | | Joint 1 |
| Prothoracic segment | | | " 2 |
| Mesothoracic " | " | | " 3 |
| Metathoracic " | " | | " 4 |
| First abdominal " | " | | " 5 |
| Second " | " | " | " 6 |
| Third " | " | " | " 7 |
| Fourth " | " | " | " 8 |
| Fifth " | " | " | " 9 |
| Sixth " | " | " | " 10 |
| Seventh " | " | " | " 11 |
| Eighth " | " | " | " 12 |
| Ninth " | " | " | " 13 |
| Tenth " | " | " | |

